AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1	The Institution ensures effective curriculum delivery through a well-planned and documented process

Criteria-1 Curricular Aspects

1.1.1

Contents

"Shri Gajanan Maharaj Prasanna"

P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1107
(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)

- Kathora Road, Amravati, Maharashtra, India
- Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
- Web. : www.prpcem.org, www.prpatilcollege.org

Curriculum planning and Implementation

(Policy and Guidelines)

1. Preamble

P. R. Pote (Patil) Welfare Trust's College of Engineering & Management, Amravati has, over the past three decades, been constantly endeavoring to train highquality scientific and technical man- power and provide solutions to a variety of challenging technological problems that may arise in different fields, through its well qualified faculty and highly skilled supporting staff, with the goal of becoming one of the leading centres of teaching, research and extension in Engineering and Technology and totally committed to excel in every sphere of its activity. It has been constantly encouraging scholarship, research, academic excellence, and innovation.

Vision and mission of the institution

Vision of the Institution

To flourish as a centre of excellence for producing the skilled technocrats and committed human beings.

Mission of the Institution

M1	To create conducive environment for teaching & learning.
M2	To impart quality education through demanding academic programs.
M3	To enhance career opportunities by exposure to Industries & recent technologies.
M4	To develop professionals with strong ethics and human values for the betterment of Society.

The Vision and Mission are communicated to the students through

- Institute Website www.prpcem.org
- Department Website
- Cover pages of Internal Assessment, Lab records and lab manuals.
- Departmental News Letter – "EE-NewsLetter" and e-magazine "URJA"
- Department Staffroom & HOD Chamber.
- Department Laboratories
- Department Notice Boards
- Classrooms
- Survey Forms
- Display Boards

Action Plan for effective implementation of the curriculum

P.R.Pote (Patil) Education and Welfare trust's, College of Engineering& management is affiliated to Sant Gadge Baba Amravati University (SGBAU)& Approved by AICTE. Hence the syllabus / curriculum prescribed by the university are followed. SGBAU curriculum contains core, Humanities, Social Sciences,and elective courses. The

"Shri Gajanan Maharaj Prasanna"
P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1107
(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)
Kathora Road, Amravati, Maharashtra, India
Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
Web. : www.prpcem.org, www.prpatilcollege.org

curriculum is framed and reviewed by the university once in4 years by the Board of Studies (BoS) comprising of chairman and elected faculty members.

Academic Calendar

- Institution calendar is prepared in association with SGBAU Academic Calendar at the commencement of each semester including working days, government and local holidays, and schedule of Internal Assessment and University examinations. Department calendar is prepared and aligned with the Institution calendar and it includes activities of departments such as guest lectures, seminars, workshops, symposiums, conferences, activities of various forums and cells, industrial visits/training, value added courses, certificate courses etc.

Quality of Classroom teaching

- Quality of the classroom teaching depends on content delivery, interaction, discussion, examples, applications and usage of modern ICT tools, and projects. The role of the teachers is significant not only with contents but also with inspirational engagement of the students through various instructional methods and pedagogical initiatives.

Instructional methods and pedagogical initiatives

- Institution practices Outcome Based Education (OBE) while planning and delivering the content.
- The faculty members will prepare the course plan based on the academic calendar to complete the syllabus as per the well-designed framework.
- Various Innovative Teaching & Learning methodologies are adopted by the faculty members to create the best learning environment for students. Teaching and Learning methodologies include traditional (Chalk and talk) and ICT enabled methods.
- Video lecturing about industry trends and practices is provided by faculty members to explain the real-world problem with industrial illustrations, design issues etc.
- Faculty members prepare the e-materials for the benefits of students.
- Faculty demonstrates static & working models, simulations, animations and implemented projects in the department.
- Lectures by experts (industrialists/academicians), technological workshops are arranged to deliver the content beyond syllabus for knowledge enhancement and value-added courses have been organized for bridging the gap between Industry and Academia and also to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills and lifelong learning of students.
- Tutorials/ E-learning classes/Remedial classes are practiced for participative learning with peer group concept.
- Assignments are given to improve the knowledge beyond the syllabus. Group Discussions and brain storming are encouraged for participative learning
- Laboratory practices are mandatory to have hands-on experience with aim to inculcate technical skills amongst students.
- The students are motivated to do research work and present papers in several Seminars / conferences /journals through project work.

"Shri Gulabrao Maharaj Prasanna"
P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1107
(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)
NAAC
- Kathora Road, Amravati, Maharashtra, India
- Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
- Web. : www.prpcem.org, www.prpatilcollege.org

- The students are encouraged to visit well stocked library with reference books and magazine for the knowledge enhancement.

Monitoring system for curricular delivery

- Dean (Academics), HoD, Academic Coordinator along with IQAC coordinator are regularly monitoring the delivery of curriculum. Formal and informal feedbacks have been taken from the students in a regular interval to monitor course delivery, syllabus completion and value addition.
- The teaching faculty is entrusted with the task of mentoring 15-20 students on academic and personal issues through counselling meeting. The teachers frequently meet the students and under Teacher-Guardian scheme contact the parents and endeavour to ascertain the problems the students are confronted with.
- OBE is adopted for the effective design and delivery of the curriculum, quality of question papers for the Internal Assessments are designed to assess the attainments of the Course Outcomes (COs). COs, defined in line with Bloom's Taxonomy, are mapped to POs to assess attainment of these outcomes after course delivery and evaluation.
- The implementation of OBE process is to encourage for long-term study and progression and is directed towards producing graduates and postgraduates who are engaged, resilient and lifelong learners.
- Academic Coordinator in the department regularly monitors the quality in curricular delivery.

The Programme Outcomes are established to relate with the skills, knowledge, expectations and attitude of the students. POs are defined in consistent with the Graduate Attributes as per NBA guidelines. The departments have meticulously drawn Program Educational Objectives (PEO) in line with Vision and Mission of the institute and department respectively. Keeping the PEOs as a base, Program Specific Outcomes (PSO) are charted out. The curriculum gives scope to the students to learn inter-disciplinary courses for holistic development.

Support to the teachers receive for effectively translating the curriculum and improving teaching practices

The Institution provide all types of facilities to teachers to attend UGC/AICTE/ISTE based Refresher Course/ Orientation Courses / Workshops / Seminars.

The initiatives for effective curriculum delivery

The Institution follows Academic Calenderfor the effective delivery and transaction of the curriculum.

- The Dean (Academics) and Departmental Academic Incharges meetat least once each month to see the progress in curriculum delivery.
- Principal regularly take progress review of academic activities in the department with respective Head of Department.
- Regular Feedback and lecture observations are done to improve the teaching learning process.

"Shri Gajanan Maharaj Prasanna"

P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1107

(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)

- Kathora Road, Amravati, Maharashtra, India
- Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
- Web. : www.prpcem.org, www.prpatilcollege.org

- Class test on each unit taught and Unit Test and assignments are taken to evaluate student learning.
- Faculty are directed to complete 100 percent syllabus in specified period and also cover Topic Beyond Syllabus.
- Regular Guest lectures, technical workshops and seminars are organized for students to make aware about industry trends and practices. Projects and mini projects are carried out to learn practical skill.
- Students are also encourage to take part in online certificate courses like NPTEL, technical activities, curriculum and extra curricular activities in the department.
- Regular parent feedback about progress of their ward are taken to improve teaching learning process.
- Students are prepared as per requirement of Industry by the Training & Placement Department.

Effective operationalization of the curriculum

- The institute network through various technical MoUs, collaboration and interact with beneficiaries such as industry, research bodies and the university in effective operationalization of the curriculum.
- Technical workshops organized by the department in collaboration with Industry, expert trainers, and renowned technical Institutes.
- Value added courses are encouraged in the department for student's lifelong learning.
- Bridge courses are conducted.
- Induction program for first year students is organized to make them aware about teaching methodology and facilities available in the campus.
- Student counselling/mentoring is regularly carried out to facilitate weak and bright students.

Other Guidelines to be follow-

- Apart from classroom lecture method Group discussions, field studies, seminars are used for teaching.
- Study tours are organized for making learning more effective as per requirement.
- At departmental level, appointment of academic coordinator, R&D coordinator, and T&P coordinators for smooth functioning.
- Extra lectures & Remedial lectures is planned for slow learners and maintain the documentation which shows the efforts taken by department.
- Topics beyond syllabus for each subject are to be delivered in class.
- Prepare teaching plan for high / medium / slow learners.
- Proper Mechanism and process for Teaching -Learning is to be documented.
- Action Taken Report (ATR) is documented
- Course assignments are initiated. Internal question papers now based only on class learning.
- Higher level skills to be tested and documented.
- Focus needs to be given on T-L process & POs attainments
- Understand of Bloom's taxonomy
- Improvement in subject tutorials

"Shri Gulabrao Maharaj Prasanna"
P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1197
(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)
NAAC
- Kathora Road, Amravati, Maharashtra, India
- Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
- Web. : www.prpcem.org, www.prpatilcollege.org

- Content delivery innovation to be practiced.
- Guest lecture may be as per gap analysis and requirements
- Increase e-resources. Teaching in class through Video/Animations.
- Test series to be conducted for poor/weaker students.

Academic Audit

Every academic year, Internal /External Audit will be conducted by the Auditors.
The department need to fulfill the requirements of the Academic Audit in a given formats.

Academic and Administrative Audits

Academic and administrative audits (AAA) are essential for the excellence in Engineering Institution. These are interrelated concepts. Thus, in order to have a quality-oriented academics, there should be a strong administrative background.

Objectives of Academic and Administrative Audits

- To understand the existing system and assess the strength and weaknesses of the department and Administrative Units and to suggest the methods for quality improvement and for overcoming the weaknesses.
- To identify the bottlenecks in the existing administrative mechanisms and to identify the opportunities for academic reforms, administrative reforms and examination reforms etc.

Academic Audit:

The purpose of an academic audit is to encourage departments or programs to evaluate their "education quality processes" – the key faculty activities required to produce, assure, and regularly improve the quality of teaching and learning.

The main aim of conducting academic audit is to assess the academic performance of both individual faculty and the whole department. This practice develops accountability of the individual members with regards to their academic performance. By conducting academic audit, the strength and weakness of the department can be assessed. The quantification of the academic performance helps us to compare the academic performance of departments and members of faculty.

Guidelines for Academic Audit

- Academic audit (Internal and External) committee is being constituted with three members headed by the Dean (Academics), IQAC Coordinator and Subject Expert faculty
- Once the committee is constituted, the date and time of the academic audit will be informed to the respective departments well in advance by the Dean (Academic) and IQAC Coordinator.
- Department must prepare documentation report as per given format by the IQAC.
- Each faculty is expected to get ready with the following documents and display them before the Academic Audit Committee.
  a. Teaching Record

"Shri Gajanan Maharaj Prasanna"
P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati Institute Code : 1107
(Recognized by AICTE, New Delhi, Approved by Govt. of Maharastra & Affiliated to SGBAU, Amravati)
NAAC
- Kathora Road, Amravati, Maharashtra, India
- Ph. No. : +91-721-2970110, Fax No. : +91-721-2530089, Email : prpotepatilcollege@gmail.com
- Web. : www.prpcem.org, www.prpatilcollege.org

b. Publications
c. Curriculum Details
d. Student Details
e. Portfolio performance

- The members of academic audit interact with Head of Department and faculty members with regards to subject matter; various activities mentioned in the format, verify all their records and credentials.
- At the end, the committee calculates the whole departments' academic performance.
- A report of department academic performance will be prepared with the significant contribution made.
- Hard copies of the reports duly signed are being sent to the IQAC.
- IQAC after due verification sends the report to the honorable Principal for perusal.
- Based on the performance, department has to submit Action Taken Report to fulfill the shortcomings mentioned in Academic Audit Report to the Principal.

संत गाडगे बाबा अमरावती विद्यापीठ
(असाधारण)
अधिसूचना

क्रमांक : १५१/२०१९ दिनांक: ९/१२/२०१९

विषय : शैक्षणिक नियामिका .... शैक्षणिक वर्ष २०२०-२०२१
Subject: Academic Calendar.... 2020-2021

सर्व संबंधितांच्या माहिती करीता अधिसूचित करण्यात येते की, शैक्षणिक वर्ष २०२०-२०२१ ची शैक्षणिक नियामिका खालील प्रमाणे राहील.

It is notified for all concerned that, the Academic Calendar for the Academic Session 2020-2021 shall be as under:

तक्ता -१
(Table-1)

अ. क्र. (S.N)	कृती/कार्यक्रम (Activity)	प्रारंभ (Commencement)	समाप्ती (Cessation)	एकूण दिवस (Total Days)
१.	शैक्षणिक सत्र (प्रथम सत्र) (First Session)	सोमवार, दि. ८ जून, २०२० Monday, 8 June, 2020	शनिवार, दि. ३१ ऑक्टोबर, २०२० Saturday, 31 October, 2020	११७ 117
२.	प्रवेश प्रक्रिया * (Admission Process)	सोमवार, दि. ८ जून, २०२० Monday, 8 June, 2020	मंगळवार, दि. १६ जून, २०२० Tuesday, 16 June, 2020	०८ 08
३.	शैक्षणिक दिवस (प्रथम सत्र) Teaching Days (First Session)	बुधवार, दि. १७ जून, २०२० Wednesday, 17 June, 2020	गुरुवार, दि. २२ ऑक्टोबर, २०२० Thursday, 22 October, 2020	१०२ 102
४.	अभिक्रम प्रक्रिया (प्रथम वर्ष प्रवेशित विद्यार्थ्यांकरिता) Induction Programme (For 1st Year Students)	बुधवार, दि. १७ जून, २०२० Wednesday, 17 June, 2020	१ आठवडा (व्यावसायिक अभ्यासक्रमाचे विद्यार्थी वगळून) व ३ आठवडे (व्यावसायिक अभ्यासक्रमांच्या विद्यार्थ्यांकरिता) 1 Week (Except Professional Courses Students) and 3 Weeks for Professional Courses Students.	०६ १८ 06 18
५.	हिवाळी परीक्षांची तयारी (Preparation of Winter Examination/College Examination)	शुक्रवार, दि. २३ ऑक्टोबर, २०२० Friday, 23 October, 2020	शनिवार, दि. ३१ ऑक्टोबर, २०२० Saturday, 31 October, 2020	०७ 07
६.	प्रथम सत्र अवकाश (First Term Vacation)	सोमवार, दि. २ नोव्हेंबर, २०२० Monday, 2 November, 2020	गुरुवार, दि. १९ नोव्हेंबर, २०२० Thursday, 19 November, 2020	१८ 18
७.	शैक्षणिक सत्र (द्वितीय सत्र) (Second Session)	शुक्रवार, दि. २० नोव्हेंबर, २०२० Friday, 20 November, 2020	सोमवार, दि. १९ एप्रिल, २०२१ Monday, 19 April, 2021	१२० 120
८.	अशैक्षणिक** दिवस (नॅकची तयारी, कर्मचारी विकास कार्यक्रम, अंतर्गत गुणवत्ता हमी	शुक्रवार, दि. २० नोव्हेंबर, २०२० Friday, 20 November, 2020	शनिवार, दि. ५ डिसेंबर, २०२० Saturday, 5 December, 2020	१३ 13

	कक्ष सभा, अंतर्गत गुणवत्ता हमी अहवाल सादरीकरण व इतर गुणवत्ता वाढी संबंधित उपक्रम, शैक्षणिक अंकेक्षण, इत्यादी.) Non Instructional Days (NAAC Preparation, Faculty Development Programmes, IQAC Meetings, IQAR Submission, Post Accreditation Activities for Quality Enhancement, Academic Audit, etc.)			
९.	शैक्षणिक दिवस (द्वितीय सत्र) Teaching Days (Second Session)	सोमवार, दि. ७ डिसेंबर, २०२० Monday, 7 December, 2020	शनिवार, दि. १६ जानेवारी, २०२१ Saturday, 16 January, 2021	३५ 35
		गुरुवार, दि. २८ जानेवारी, २०२१ Thursday, 28 January, 2021	मंगळवार, दि. ६ एप्रिल, २०२१ Tuesday, 6 April, 2021	५५ 55
१०.	विद्यार्थ्यांचे गैरशैक्षणिक उपक्रम. (Extra Curricular Activities of students)	सोमवार, दि. १८ जानेवारी, २०२१ Monday, 18 January, 2021	बुधवार, दि. २७ जानेवारी, २०२१ Wednesday, 27 January, 2021	०८ 08
११.	उन्हाळी परीक्षांची तयारी (Preparation for Summer Examination/College Examinations)	बुधवार, दि. ७ एप्रिल, २०२१ Wednesday, 7 April, 2021	सोमवार, दि. १९ एप्रिल, २०२१ Monday, 19 April, 2021	०९ 09
१२.	द्वितीय सत्र अवकाश (Second Term Vacation)	मंगळवार, दि. २० एप्रिल, २०२१ Tuesday, 20 April, 2021	सोमवार, दि. ३१ मे, २०२१ Monday, 31 May, 2021	४२ 42

* प्रथम सत्र प्रारंभ होण्यापूर्वी अवकाश कालावधीत प्रवेश प्रक्रिया सुरू करण्यात यावी.
(Admission Process may be started prior to commencement of First Session in vacations.)

** विद्यापीठाने Faculty Development Programme, Orientation/Refresher Courses इत्यादी शक्यतो या कालावधीत आयोजित करावेत.
(As far as possible the University should organize Faculty Development Programme, Orientation/Refresher Courses etc. during this period.)

विद्यापीठाच्या परीक्षा व दीक्षांत समारंभ
University Examinations and Convocation

अ. विद्यापीठाने खालील कालावधीतच नियमित परीक्षांचे आयोजन करावे.
A.The University Shall conduct regular examinations strictily adhering to following schedule.

अ. क्र. (S.N)	कृती/कार्यक्रम (Activity)	प्रारंभ (Commencement)	समाप्ती (Cessation)	एकूण दिवस (Total Days)
1.	हिवाळी परीक्षा Winter Examinations	सोमवार, दि. ९ नोव्हेंबर, २०२० Monday, 9 November, 2020	गुरुवार, दि. १० डिसेंबर, २०२० Thursday, 10 December, 2020	२८ 28
2.	उन्हाळी परीक्षा Summer Examinations	मंगळवार, दि. २० एप्रिल, २०२१ Tuesday, 20 April, 2021	सोमवार, दि. १७ मे, २०२१ Monday, 17 May, 2021	२२ 22

विशेष सूचना: (Special Note):

ब. विद्यापीठाचा दीक्षांत समारंभ रविवार, दि. २० डिसेंबर, २०२० रोजी आयोजित करण्यात येईल.
B.University Convocation will be organized on Sunday, 20th December, 2020.

तक्ता -२
(Table – 2)

अ. क्र. (Sr.No.)	सण/सुट्या (Festivals/Holidays)	दिवस व दिनांक (Day & Date)
१.	बकरी ईद (ईद-उल-झुआ) Bakri Id (Id-Ul-Zuha)	शनिवार, दि. १ ऑगस्ट, २०२० Saturday, 1 August, 2020
२.	रक्षाबंधन Rakshabandhan	सोमवार, दि. ३ ऑगस्ट, २०२० Monday, 3 August, 2020
३.	स्वातंत्र्य दिन Independence Day	शनिवार, दि. १५ ऑगस्ट, २०२० Saturday, 15 August, 2020
४.	गणेश चतुर्थी Ganesh Chaturthi	शनिवार, दि. २२ ऑगस्ट, २०२० Saturday, 22 August, 2020
५.	गौरीपूजन Gouri Poojan	बुधवार, दि. २६ ऑगस्ट, २०२० Wednesday, 26 August, 2020
६.	अनंत चतुर्दशी Anant Chaturdashi	मंगळवार, दि. १ सप्टेंबर, २०२० Tuesday, 1 September, 2020
७.	सर्वपित्री अमावास्या Sarvapitri Amawasyya	गुरूवार, दि. १७ सप्टेंबर, २०२० Thursday, 17 September, 2020
८.	महात्मा गांधी जयंती Mahatma Gandhi Jayanti	शुक्रवार, दि. २ ऑक्टोबर, २०२० Friday, 2 October, 2020
९.	ईद-ए-मिलाद Id-E-Milad	शुक्रवार, दि. ३० ऑक्टोबर, २०२० Friday, 30 October, 2020
१०.	गुरूनानक जयंती Gurunank Jayanti	सोमवार, दि. ३० नोव्हेंबर, २०२० Monday, 30 November, 2020
११.	ख्रिसमस Christmas	शुक्रवार, दि. २५ डिसेंबर, २०२० Friday, 25 December, 2020
१२.	प्रजासत्ताक दिन Republic Day	मंगळवार, दि. २६ जानेवारी, २०२१ Tuesday, 26 January, 2021
१३.	छत्रपती शिवाजी महाराज जयंती Chhatrapati Shivaji Maharaj Jayanti	शुक्रवार, दि. १९ फेब्रुवारी, २०२१ Friday, 19 February, 2021
१४.	महाशिवरात्री Mahashivratri	गुरूवार, दि. ११ मार्च, २०२१ Thursday, 11 March, 2021
१५	होळी (दुसरा दिवस) Holi (Second Day)	सोमवार, दि. २९ मार्च, २०२१ Monday, 29 March, 2021
१६.	गुड फ्रायडे Good Friday	शुक्रवार, दि. २ एप्रिल, २०२१ Friday, 2 April, 2021
१७.	गुढीपाडवा Gudhi Padwa	मंगळवार, दि. १३ एप्रिल, २०२१ Tuesday, 13 April, 2021
१८.	डॉ.बाबासाहेब आंबेडकर जयंती Dr.Babasaheb Ambedkar Jayanti	बुधवार, दि. १४ एप्रिल, २०२१ Wednesday, 14 April, 2021

खालील सुट्या रविवारी येत आहेत.

१.	पारशी नववर्ष दिन (शहेनशाही)	- १६ ऑगस्ट, २०२०
२.	मोहरम	- ३० ऑगस्ट, २०२०
३.	दसरा	- २५ ऑक्टोबर, २०२०
४.	महावीर जयंती	- २५ एप्रिल, २०२१

Following Holidays fall on Sunday.

1.	Parsi New Year (Shahenshahi)	- 16 August, 2020
2.	Moharum	- 30 August, 2020
3.	Dasara	- 25 October, 2020
4.	Mahavir Jayanti	- 25 April, 2021

(१) ही शैक्षणिक नियामिका विद्यापीठाचे शैक्षणिक विभाग/ घटक महाविद्यालये/ संलग्नित महाविद्यालये (व्यावसायिक महाविद्यालयांसहीत) यांना लागू राहील.
(This Academic Calendar shall be applicable to all University Teaching Departments/ University Constituent Colleges/Affiliated Colleges (including Professional Colleges) of Sant Gadge Baba Amravati University.)

(२) शैक्षणिक वर्ष २०२०-२०२१ या कालावधीत करण्यात आलेल्या एकूण अध्यापन दिवसांसंबंधीची माहिती विद्यापीठाच्या शैक्षणिक विभाग प्रमुखांनी/घटक महाविद्यालयांच्या प्राचार्यांनी / संलग्नित महाविद्यालयांच्या प्राचार्यांनी शैक्षणिक वर्षाच्या अखेरीस विद्यापीठास कळवावी.
(At the end of Academic Session the Heads of the Teaching Departments of the University / Principals of Constituent Colleges / Affiliated Colleges shall communicate to the University the actual teaching days conducted during the Academic Session 2020-2021).

(३) विद्यापीठाच्या शैक्षणिक विभागांतील / घटक महाविद्यालयातील/ संलग्नित महाविद्यालयांतील शिक्षक व शैक्षणिक कर्मचाऱ्यांना तक्ता-२ मध्ये दर्शविण्यात आलेल्या सुट्यांव्यतिरिक्त राज्य शासनाने जाहीर केलेल्या इतर सुट्या अथवा जिल्हाधिकाऱ्यांनी जाहीर केलेल्या सुट्या उपभोगता येणार नाहीत. तथापि, यासंदर्भात अनुषंगिक निर्णय घेण्याचे अधिकार मा. कुलगुरू यांना राहतील.
(The Teaching Departments of the University/ University Constituent Colleges/ Affiliated Colleges of the University shall have holidays as per Table-2 and shall not avail the holidays declared by the State Government or the District Collector. However, the Hon'ble Vice-Chancellor shall have the power to take decision in this regard.)

(४) परीक्षा कालावधी कमी करण्यात यावा, ज्यामुळे मूल्यांकनाला पुरेसा वेळ देता येईल व निकाल वेळेवर जाहीर करता येतील, तथा प्रवेश प्रक्रियेला गती देवून प्रवेश वेळेत पूर्ण करता येतील. जेणेकरुन विद्यार्थी महाविद्यालय/ विद्यापीठ परिसरात शैक्षणिक कार्यासाठी नियोजित कार्यक्रमानुसार उपस्थित राहू शकेल. याकरीता परीक्षा विभागाने परीक्षेकरिता निर्धारीत केलेल्या कालावधीचे कटाक्षाने पालन करावे.
(Span of Examination be curtailed to have enough time for evaluation and the publication of results in time so that the admission process could be speed up and completed in time, to have students' presence in the campus for teaching as per schedule. For this, the time span allotted for examinations shall be strictly followed by Examination Section.)

(५) व्यावसायिक अभ्यासक्रमांच्या प्रथम सत्राचे प्रवेश संबंधित प्राधिकारणाद्वारे निश्चित होत असल्यामुळे प्रवेश प्रक्रियेचा कालावधी काही आठवड्यांनी लांबतो. त्यामुळे प्रत्यक्ष शैक्षणिक कार्य विलंबाने सुरू होते. हे लक्षात घेता, ९० शैक्षणिक दिवस पूर्ण होईपर्यंत प्रथम सत्र सुरू ठेवावे. करिता महाविद्यालय तथा विद्यापीठाचे परीक्षा व मूल्यांकन विभाग अवकाश व परीक्षेचा कालावधी यामध्ये समायोजन घडवून आणतील. तसेच या संदर्भातील बदल महाविद्यालये विद्यापीठाला कळवतील.
(The admissions of the First Semester of Professional Courses are governed by their respective authorities for completion of admission process, results in late commencement of actual teaching. Hence, it is recommended to extend Ist Session to observe at least 90 teaching days. Vacation and Examination shall be adjusted by the Colleges, Examination & Evaluation Section of the University. Accordingly, the change should be brought to the notice of the University.)

(६) ही शैक्षणिक नियामिका विचारात घेवून प्रत्येक महाविद्यालयाने तपशिलवार शैक्षणिक नियामिका तयार करून ती महाविद्यालय विकास समितीकडून मान्य करून महाविद्यालयाचे माहितीपत्रक आणि वेबसाईट इत्यादीच्या माध्यमातून विद्यार्थ्यांच्या निदर्शनास आणणे अनिवार्य आहे.
(It is manadatory for all the colleges to prepare their Academic Calendar as per University Academic Calendar and after approval of the College Development Committee, the College Academic Calendar be published in the College Prospectus and upload on the Website.)

(७) **अभिक्रम प्रक्रिया :** शिखर संस्थांच्या (ए.आय.सी.टी.ई., यु.जी.सी. इत्यादी) मार्गदर्शक तत्त्वांनुसार विद्यापीठाच्या शैक्षणिक विभागाद्वारे/ घटक महाविद्यालयाद्वारे/ संलग्नित महाविद्यालयांद्वारे अभिक्रम प्रक्रिया अंतर्गत विविध उपक्रम राबविण्यात यावेत.
Induction Programme: Activities shall be performed as per guidelines of the apex bodies (A.I.C.T.E., U.G.C. etc.) by the University teaching departments/ constitutent / affiliated colleges.

स्वा/-

(डॉ.टी.आर.देशमुख)
कुलसचिव,
संत गाडगे बाबा अमरावती विद्यापीठ

*****

P. R. Pote Patil College of Engineering & Management, Amravati

PROPOSED ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

ODD SEMESTER

July 2020						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 2020						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 2020						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2020						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Activity	Date/Duration
Display of Time Table	17-July-2020.
Commencements of Classes	20-July-2020.
Discussion about scheme of exam and syllabus	25-July-2020.
Forum Formation (Department Level)	7,8 August-2020.
Library Books issue	10-August-2020.
Feedback I (Department Level)	28,29 Aug. 2020
Final Year Seminar	07 to 10 Sept. 2020
Unit Test 1	14, 15, 16 Sept. 2020
Declaration of UT 1 Result	18 Sept. 2020
Class Test/ Assignments/Viva/Re-test	21, 22 Sept. 2020
Project Review	3-5 Oct. 2020
Display of Provisional detention list	06 Oct. 2020
Parents Meet	10 Oct. 2020
Unit Test 2	29,30.31 Oct 2020
Display of detention list	31 Oct. 2020
Declaration of UT 2 Result	02 Nov. 2020
Final Feedback	29,30.31 Oct 2020
Practical Submission	3,4,5,6 Nov. 2020
Guidance Regarding Exam	07 Nov. 2020
Last day of Teaching	Not Finalised
University Exam	Not Finalised

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote Patil College of Engineering & Management, Amravati

PROPOSED ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

EVEN SEMESTER

December 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April 2021

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Activity	Date/Duration
Display of Time Table	12 Dec. 2020
Commencements of Classes (Higher)	14 Dec. 2020
Discussion about scheme of exam and syllabus	27 Dec. 2020
Commencements of Classes (First Year)	15 Jan. 2021
Library Books issue	1 Jan. 2021
Project Review II	4-5 Jan. 2021
Unit Test 1	15,16,17 Feb. 2021
Declaration of UT 1 Result	20 Feb. 2021
Class Test/ Assignments/Viva/Re-test	22 to 26 Feb. 2021
Feedback I	2,3 March 2021
Display of Provisional detention list	04 March.2021
Project progress Submission	15,16 March 21
Unit Test 2	1, 2,3 April 2021
Declaration of UT 2 Result	05 Apr. 2021
Class Test/ Assignments/Viva/Re-test	6 to 9 April 2021
Feedback 2	1, 2,3 April 2021
Display of detention list	10 Apr. 2021
Project Completion	12 Apr. 2021
Practical Submission	12 to 15 April 2021
Last day of Teaching	Not Finalized
University Exam	Not Finalized

Above mentioned dates are subject to change due to unavoidable circumstances (COVID 19)

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P.R.POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES & WELFAREE TRUSTS

P.R.POTE(PATIL) COLLEGE OF ENGINEERING &MANAGEMENT, AMRAVATI

(An Accreditated Institution affiliated to SantGadge Baba Amravati University)

(Accredited 'A' Grade by NAAC)

Department Of First Year Engineering

Academic Calendar for Odd Semester in Academic Session 2020-21

Date of Release: 28January 2021

Undergraduate Program (I&II SemBE)

Activity	Dates
Course registrations Important Notifications (I&II Sem BE)	09-Jun.21
Last Date for Course registrations (I&II Sem BE.)	10- Jun.21
Display Of Time Table	10- Jun.21
Commencement of Classes (F.Y.)	10- Jun.21
Discussion about Scheme & Syllabus of Examination.	10- Jun.21
Student's Assignment Work	10-Jul 21
Unit Test (I)	17 Jul &19 Jul
Display of Marks/Results of Unit Test (I)	22-Jul 21
Parents Teacher Meeting	24-Jul 21
Students with low attendance/ poor performance to meet HoD/FYC	31-Jul 21
Feedback (I) Mid term feedback (Students)	07-Aug 21
Display of Provisional Detention List	10-Aug 21
Unit Test (II)	21-Aug & 23 Aug
Display of Marks/Results of Unit Test (II)	26-Aug 21
Parents Teacher Meeting regarding Test (II) results & Poor Attendance	28-Aug 21
Students with low attendance/ poor performance to meet HoD / FYC	31-Aug 1
Teacher's Day Celebrations.	04 Sept.& 05-Sept. 21
Engineer's Day Celebrations.	15-Sept 21
Practical (Internal) Submission	18-Sept. 21
Display Of Final Detention List	18-Sept. 21
Feedback (II) Endsem feedback (Students)	20-Sept. 21
Last Day of session.	27-Sept. 21
University Examination	Inform Later
Results	Inform Later
College Re-opens for Next Odd sem Term 2021-22	Inform Later

Time Table In charge — HOD (F.Y.ENGINEERING) — PRINCIPAL PRPCEM

Prof.G.B.Malviya

Malviya GB

Copy to

Deputy Director, PRPCEM

Principal, PRPCEM

Dean, Academics

P.R.POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES & WELFAREE TRUSTS

P. R. POTE (PATIL) COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI.

(An Accreditated Institution affiliated to Sant Gadge Baba Amravati University)

(Accredited 'A' Grade by NAAC)

Kathora Road,Amravati,444602

Department Of First Year Engineering

Academic Calendar for Odd Semester in Academic Session 2020-21

Date of Release: 28 January 2021

Undergraduate Program (I&II Sem BE)

Activity	Dates
Course registrations (I&II Sem BE)	20-24 Jan.21
Last Date for Course registrations (I&II Sem BE.)	25 Jan.21
Display Of Time Table	25 Jan. 21
Commencement of Classes (Higher)	28 Jan 21
Commencement of Classes (F.Y.)	28 Jan. 21
Discussion about Scheme & Syllabus of Examination.	28 Jan. 21
Induction Program	6 Feb 21
Student's Assignment Work	20 Feb 21
Science Day Celebrations	28/2/21
Unit Test (I)	6 Mar & 8 Mar 21
Display of Marks/Results of Unit Test (I)	12 Mar 21
Parents Teacher Meeting	20 Mar 21
Students with low attendance/ poor performance to meet HoD/FYC	20 Mar 21
Feedback (I) Mid term feedback (Students)	27 Mar 21
Display of Provisional Detention List	29 Mar 21
Unit Test (II)	10 Apr & 12 Apr. 21
Display of Marks/Results of Unit Test (II)	15 Apr 21
Parents Teacher Meeting regarding Test (II) results & Poor Attendance	24 Apr 21
Students with low attendance/ poor performance to meet HoD / FYC	24 Apr 21
Practical (Internal) Submission	26 Apr 21
Display Of Final Detention List	27 Apr 21
Feedback (II) End sem feedback (Students)	30 Apr 21
Last Day of session.	30 Apr 21
University Examination	Inform Later
Results	Inform Later
College Re-opens for Even Term 2020-21	Inform Later

Time Table In-charge — **Prof. G.B .Malviya**

HOD — **(F.Y.ENGINEERING)**

PRINCIPAL — **PRPCEM**

Copy to

Deputy Director, PRPCEM

Principal, PRPCEM

Dean, Academics

P. R. Pote Patil College of Engineering & Management, Amravati

Department of Electronics & Telecommunication Engg.

ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

EVEN SEMESTER

December 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April 2021

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Activity	Date/Duration
Display of Time Table	23 Dec. 2020
Commencements of Classes (Higher)	26 Dec. 2020
Commencements of Classes (First yr.)	15 Jan. 2021
Discussion about scheme of exam and syllabus	27 Dec. 2020
Library Books issue	1 Jan. 2021
Project Review II	6 Jan. 2021
Unit Test 1	17, 18 & 20 Feb. 2021
Declaration of UT 1 Result	24 Feb. 2021
Class Test/ Assignments/Viva/Re-test	25 to 29 Feb. 2021
Feedback I	2, 3 March 2021
Display of Provisional detaintion list	05-Mar-21
Project progress Submission	14-Mar-21
Unit Test 2	1, 3, 4 April 2021
Declaration of UT 2 Result	07-Apr-21
Class Test/ Assignments/Viva/Re-test	8 to 11 April 2021
Feedback 2	8, 9 April 2021
Practical Submission	8 to 11 April 2021
Project Completion	10-Apr-21
Display of detention list	13-Apr-21
Last day of Teaching	13-Apr-21
University Exam	20-Apr-21

Above mentioned dates are subject to change due to unavoidable circumstances.

I/c Academics

HOD

P. R. Pote Patil College of Engineering & Management, Amravati

Department of Electronics & Telecommunication Engg.

ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

ODD SEMESTER

July 2020						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 2020						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 2020						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2020						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Activity	Date/Duration
Display of Time Table	17-Jul-20
Commencements of Classes	20-Jul-20
Discussion about scheme of exam and syllabus	20-Jul-20
Library Books issue	1 Aug. 2020.
Unit Test 1	13, 14, 16 Aug. 2020
Declaration of UT 1 Result	22 August 2020.
Class Test/ Assignments/Viva/Re-test	23 to 31 Aug. 2020
Feedback I	30, 31 Aug. 2020
Final Year Seminar	09 to 14 Sept. 2020
Project Review I	03 - 04 Oct. 2020
Display of Provisional detaintion list	01 Oct. 2020
Unit Test 2	14, 15, 16 Oct. 2020
Declaration of UT 2 Result	19 Oct. 2020
Class Test/ Assignments/Viva/Re-test	21, 22 Oct. 2020
Feedback 2	21, 22 Oct. 2020
Practical Submission	17 to 22 Oct. 2020
Display of detention list	23 Oct. 2020
Last day of Teaching	23 Oct. 2020
University Exam	31 Oct. 2020

Above mentioned dates are subject to change due to unavoidable circumstances.

I/c Academics

HOD

P. R. Pote Patil Edu. & Welf. Trust, Group of Insti., College of Engineering & Management, Amravati

ACADEMIC PLANNER | **Year: 2020-21** | **SEMESTER: III,V,VII**

	DAY	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
August	ACTIVITIES													Session Starts		Independence Day							Ganesh Jayanti										No. of working days = 13
	DAY	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
September	ACTIVITIES														UNIT TEST 1	UNIT TEST 1	UNIT TEST 1	Sarvpitri Amavsya															No. of working days = 22
	DAY	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	ACTIVITIES		Shashtri Jayanti																														No. of working days = 27
	DAY	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Say	Sun	Mon		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
November	ACTIVITIES									UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	Diwali																	Guru Nanak Jayanti			No. of working days = 19
	DAY	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue				Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
December	ACTIVITIES												Session End		Internal Practical Submission																		No. of working days = 14

In teaching learning process, Sundays may be accounted.

Total number of Working Days = 92

Dr.A.S.Tetang
Academic Incharge

Prof.D.A.Shahakar
H.O.D. (Elect. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote Patil Edu. & Welf. Trust, Group of Insti., College of Engineering & Management, Amravati

ACADEMIC PLANNER | Year: 2020-21 | SEMESTER: IV,VI,VIII

	DAY		Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Say	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Dt.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	No. of working Days = 5
Jan	ACTIVITIES																											Republic Day	SESSION BEGINS					
	DAY	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun					
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28					No. of working Days = 24
Feb	ACTIVITIES																			Shiv Jayanti	EESA Activity			UNIT TEST 1		UNIT TEST 1								
	DAY	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		No. of working Days = 26
March	ACTIVITIES											Mahashivratri																		Dhulivandan				
	DAY	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri			
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			No. of working Days = 26
April	ACTIVITIES		Goodfriday			Ramnavami						Gudipadwa	Dr.B.R. Ambedkar Jayanti	UNIT TEST 1	UNIT TEST 1	UNIT TEST 1		UNIT TEST 1	UNIT TEST 1	Ramvavami	UNIT TEST 1													
	DAY	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		No. of working Days = 29
May	ACTIVITIES	Maharashtra Day												Akshiya Trutiya and Id												UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	UNIT TEST 2		STTP		
	DAY	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Mon	Tue	Wed	Thu	Fri	Sat		Mon	Tue	Wed			
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		21	22	23	24	25	26		28	29	30			No. of working Days = 19
June	ACTIVITIES														Term End	Internal Practical Submissions, Assignments, Project report submissions																		

In teaching learning process, Sundays may be accounted.

Total number of Working Days = 109

Prof. A. S. Telang
Academic Incharge

Prof.D.A.Shahakar
HOD
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg.& Management
Amravati.

P. R. Pote Patil College of Engineering & Management, Amravati

Department of MBA

TIME TABLE : MBA Sem IV (W. E. F. 18 January, 2021) & MBA Sem I (W. E. F. 27 January, 2021)

Day	Class/Time*	11.00 - 11.45	12.00 - 12.45	1.00 - 1.45	2.00 - 2.45
MON	MBA SEM I	PPM-SRS	AFM -VAI	MSD-FKT	ME-PBU
	MBA Sem IV SGF	FDA-PBU	SM-SKS	SAPM-SDR	MFS-SRS
	MBA Sem IV SM	IME-NSK		SPM-SBK	MNPO-VAI
	MBA Sem IV OB	HBWP-FKT		MOGP-PWN	IHRM-NSK
TUE	MBA SEM I	PPM-SRS	AFM -VAI	MSD-FKT	ME-PBU
	MBA Sem IV SGF	FDA-PBU	SM-SKS	SAPM-SDR	MFS-SRS
	MBA Sem IV SM	IME-NSK		SPM-SBK	MNPO-VAI
	MBA Sem IV OB	HBWP-FKT		MOGP-PWN	IHRM-NSK
WED	MBA SEM I	PPM-SRS	AFM -VAI	MSD-FKT	ME-PBU
	MBA Sem IV SGF	FDA-PBU	SM-SKS	SAPM-SDR	MFS-SRS
	MBA Sem IV SM	IME-NSK		SPM-SBK	MNPO-VAI
	MBA Sem IV OB	HBWP-FKT		MOGP-PWN	IHRM-NSK
THU	MBA SEM I	BET-PWN	MIS-NSK	OBE-SKS	QTM-SBK
	MBA Sem IV SGF	FD-SRS	INSM-VAI	FEM-PBU	DISS
	MBA Sem IV SM	RUM-SKS	MOS-SBK	RTM-SDR	
	MBA Sem IV OB	CLM-SDR	ODIS-FKT	KM-PWN	
FRI	MBA SEM I	BET-PWN	MIS-NSK	OBE-SKS	QTM-SBK
	MBA Sem IV SGF	FD-SRS	INSM-VAI	FEM-PBU	DISS
	MBA Sem IV SM	RUM-SKS	MOS-SBK	RTM-SDR	
	MBA Sem IV OB	CLM-SDR	ODIS-FKT	KM-PWN	
SAT	MBA SEM I	BET-PWN	MIS-NSK	OBE-SKS	QTM-SBK
	MBA Sem IV SGF	FD-SRS	INSM-VAI	FEM-PBU	DISS
	MBA Sem IV SM	RUM-SKS	MOS-SBK	RTM-SDR	
	MBA Sem IV OB	CLM-SDR	ODIS-FKT	KM-PWN	

* All classrom timings are for conducting Online Difficulty Sessions and are fixed with 15 min break so as to start the next class timely.

Sr. No.	Name of the Faculty	MBA Sem I	MBA Sem IV
1	Prof. S. R. Shah	PPM	FD, MFS, DISS
2	Prof. N. S. Kariya	MIS	IME, IHRM, DISS
3	Prof. V. A. Ingole	AFM	INSM, MNPO, DISS
4	Prof. P. W. Nimbhorkar	BET	MOGP, KM, DISS
5	Prof. S. K. Singh	OBE	SM, RUM, DISS

Sr. No.	Name of the Faculty	MBA Sem I	MBA Sem IV
6	Prof. S. B. Kadu	QTM	SPM, MOS, DISS
7	Prof. F. K. Thomas	MSD	HBWP, ODIS, DISS
8	Prof. P. B. Udasi	ME	FDA, FEM, DISS
9	Prof. S. D. Raut		SAPM, RTM, CLM, DISS

Academic Incharge
Department of M.B.A.

HOD
Department of M.B.A.

Principal
PRPCEM, Amravati

P.R.POTE (PATIL) COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI

DEPARTMENT OF MBA

Online Lecture Time Table for MBA SEM III (Finance/HR/Marketing) W.E.F. 10.08.2020 (Updated)

Day	Time	Class - MBA SEM III		
		Finance	HR	Marketing
Monday	9.00-10.00am	SRS-IFS	SDR-MNTD	SKS-SDM
	11.00-12.00pm	SDR-ISC	PWN-MNIR	NSK-ADM
	1.00-2.00 pm	VAI-BL		
Tuesday	9.00-10.00am	PBU-RIM	FKT-PM	SKS-AGM
	11.00-12.00pm	PBU-IFM	PWN-HRD	SBK-IMS
	1.00-2.00 pm	SKS - T&P (SRS - SF / NSK - R&D)		
Wednesday	9.00-10.00am	VAI-BS	NSK-HRLF	SKS-SDM
	11.00-12.00pm	SRS-IFS	PWN-MNIR	SBK-BM
	2.00-3.00 pm	T&P		
Thursday	9.00-10.00am	SRS-WCM	SDR-MNTD	NSK-ADM
	11.00-12.00pm	PBU-IFM	FKT-CM	SBK-IMS
	1.00-2.00 pm	Activities / Dissertation / Counselling / Meetings		
Friday	9.00-10.00am	SDR-ISC	NSK-HRLF	SKS-AGM
	11.00-12.00pm	PBU-RIM	FKT-CM	SDR-CB
	1.00-2.00 pm	VAI-BL		
Saturday	9.00-10.00am	VAI-BS	FKT-PM	SDR-CB
	11.00-12.00pm	SRS-WCM	PWN-HRD	SBK-BM
	2.00-3.00 pm	T&P		

Activities		
	Week 1	PWN - Psychometric Tests
	Week 2	SBK - Case Study Analysis (CSD)
	Week 3	FKT - Communication Skill Development (C
	Week 4	PBU - Group Disscussions (GD)
	Week 5	SDR - Presentations

Academic Incharge
Department of M.B.A.

HOD
Department of M.B.A.

P. R. Pote Patil College of Engineering and Management, Amravati
Department of Electronics and Telecommunication Engineering
Online Class Time Table

Session: 2020-21 Even

w.e.f.- 21/01/2021

Day	Semester	Lecture-1 11:00 to 12:00	Lecture-2 12.00 to 01:00	Lecture-3 01:00 to 02:00
Mon	IV	SS	AC	A&DC
	VI	MPA	DCOM	ECOM
	VIII	UHF	WC	DCN
Tue	IV	NA	A&DC	V&E
	VI	ECOM	DSP	SD-Lab - 4
	VIII	Bio. Medical	UHF	Project
Wed	IV	AC	SS	V&E
	VI	DCOM	CSE	MPA
	VIII	WC	DCN	Counseling
Thu	IV	A&DC	NA	T&P
	VI	DSP	CSE	DCOM
	VIII	WC	Bio. Medical	UHF
Fri	IV	EVS	AC	V&E
	VI	CSE	ECOM	C. Skill
	VIII	Bio. Medical	DCN	UHF
Sat	IV	NA	SS	T&P
	VI	MPA	DSP	C. Skill
	VIII	Project		T&P

2nd Year	Faculty Name	3rd Year	Faculty Name	4th Year	Faculty Name
AC	Dr. G. D. Dalvi	DSP	Dr. R. D. Ghongade	UHF & MW	Prof. P. N. Pusdekar
A&DC	Prof. R. D. Sushir	CSE	Prof. S. K. Nanda	DCN	Prof. G. D. Nagoshe
NA	Prof. B. R. Mankar	MPA	Prof. U. W. Hore	WC	Prof. S. P. Bhonge
SS	Prof. A. R. Pawade	DCOM	Dr. V. B. Padole	Bio. Med.	Prof. U. W. Hore
V&E	Prof. V. B. Langote	ECOM	Prof. S. S. Sagane	Project	Resp. Guides
EVS	Prof. M. G. Kukalkar	C. Skill	Prof. S. Sonkhaskar	Counseling	Resp. Counselor
		SD Lab-4	Prof. G. D. Nagoshe		

(Prof. P. N. Pusdekar)
Time Table I/c

(Dr. R. D. Ghongade)
Head of Department

P. R. Pote Patil College of Engineering and Management, Amravati
Department of Electronics and Telecommunication Engineering
Schedule of Online Classes
Session: 2020-21 (ODD)

w.e.f.- 13/10/2020

Day	Semester	Lecture-1 11:00 to 12:00	Lecture-2 12.00 to 01:00	Lecture-3 01:00 to 02:00
Mon	III	M-III	EDC	T&P
	V	PE&D	IMP	AE-II
	VII	P. Elective	DIP	IMQC
Tue	III	DSD	EDC	OOP
	V	CE-II	OE	T&P
	VII	DIP	VLSI	P. Elective
Wed	III	EMF	EMF	M-III
	V	IMP	PE&D	T&P
	VII	SFOC	IMQC	VLSI
Thu	III	M-III	OOP	DSD
	V	CE-II	OE	AE-II
	VII	VLSI	DIP	T&P
Fri	III	EVS	OOP	EMF
	V	IMP	AE-II	OE
	VII	P. Elective	SFOC	SD-V
Sat	III	EDC	DSD	SD-I
	V	PE&D	CE-II	SD-III
	VII	SFOC	IMQC	T&P

2nd Year	Faculty Name	3rd Year	Faculty Name	4th Year	Faculty Name
M-III	Dr. S. A. Bhojne	AE-II	Prof. S. P. Bhonge	VLSI Design	Prof. A. R. Pawade
EDC	Dr. G. D. Dalvi	PE&D	Dr. R.D. Ghongade	DIP	Prof. P. N. Pusdekar
EMF	Prof. G. D. Nagoshe	IMP	Prof. U. W. Hore	SFOC	Prof. P. N. Pusdekar
DSD	Prof. V. B. Padole	CE-II	Prof. R. D. Sushir	IMQC	Prof. V. B. Langote
OOP	Prof. V. B. Bhagat	OE	Prof. B. R. Mankar	P. Elective	Prof. R. D. Sushir
EVS	Prof. M Kukalkar	SD-III	Prof. G. D. Nagoshe	Project	Respective Guides

(Prof. P. N. Pusdekar)
Time Table I/c

(Dr. G. D. Dalvi)
Dean Academics

(Dr. R. D. Ghongade)
Head of Department

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg.& Management
Amravati.

21

Format No: PRPCEM/Acad/4.1

P. R. Pote (Patil) College of Engineering and Management, Amravati

Department of Mechanical Engineering

Online class Time Table Odd 2020-21

Semester: III, V, & VII **Effective from 22/07/2021**

Day	Time / Year	11 to 12	12 to 1	1 to 2	2 to 3
Monday	II	Fluid Power -I	Engineering Thermo.	Environment	
	III	Measurement System	Theory of Machine	Production Technology	
	IV	IMC	Energy Conversion -II	Tool Engg./ Mechatronics	
Tuesday	II	Mechanics of Material	Mathematics-III	Fluid Power -I	
	III	Measurement System	Industrial Engineering		T&P
	IV	Auto. Engg.	Tool Engg./ Mechatronics	MDD-II	
Wednesday	II	MP-I	Engineering Thermo.	Mathematics-III	
	III	Theory of Machine	Production Technology	Measurement System	
	IV	IMC	Energy Conversion -II	Auto. Engg.	
Thursday	II	MP-I	Mechanics of Material	Mathematics-III	
	III	Industrial Engineering	Heat Transfer	T&P	
	IV	Auto. Engg.	T&P	Tool Engg./ Mechatronics	
Friday	II	MP-I	Engineering Thermo.	Mechanics of Material	
	III	Heat Transfer	Theory of Machine		T&P
	IV	MDD-II	Energy Conversion -II	IMC	
Saturday	II	Engineering Thermo.	Fluid Power -I	T&P	
	III	Heat Transfer	Industrial Engineering	Production Technology	
	IV	MDD-II	Tool Engg./ Mechatronics	Energy Conversion -II	

Second year		Third Year		Final Year	
Subject	Name of the Staff	Subject	Name of the Staff	Subject	Name of the Staff
M-III	Prof. Khapre	HT	Prof. P. B. Ingle	EC-II	Prof. V. G. Gore
MOM	Prof. P K Shivankar	MS	Prof. G. S. Mahalle	IMC	Prof. S. V. Mishra
FP-I	Prof. V. G. Gore	TOM	Prof. S. P. Yeole	AE	Prof. R. S. Pokle
ET	Prof. P. B. Ingle	IE	Prof. R. S. Pokle	MDD-II	Prof. P. K. Shivankar
MP-I	Prof. P. R. Wadnerkar	PT	Prof. P. R. Wadnerkar	Mech/ Tool	Prof. M. G. Walecha Prof. S. V. Mishra

G.S. Mahalle
Time Table I/C

HoD

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati

Dean Academics

Format No: PRPCEM/Acad/4.1

P. R. Pote (Patil) College of Engineering and Management, Amravati

Department of Mechanical Engineering

Online class Time Table Even 2020-21

Semester: IV, VI, & VIII **Effective from 30/03/2021**

Day	Time / Year	11 to 12	12 to 1	1 to 2	2 to 3	3 to 4
Monday	II	Aptitude training	H&P	BEDC	Fluid Power-I	Virtual Lab
	III	Fluid Power-II	TOM-II	CSE		
	IV	RAC/Robo	I. C. Engine	AE/AMS		
Tuesday	II	Material Science	MT	Energy Conversion -I	ET	
	III	CS	CSA-II	RES	Virtual Lab	
	IV	AE/AMS	ORT	I C Engine		
Wednesday	II	Energy Conversion -I	H&P	BEDC	MT	
	III	CSE	TOM-II	RES		
	IV	ORT	I. C. Engine	RAC/Robo	Virtual Lab	
Thursday	II	Material Science	MT	CAD	M-III	
	III	Fluid Power-II	CSA-II	CS		
	IV	I. C. Engine	ORT	AE/AMS		
Friday	II	Energy Conversion -I	H&P	BEDC	MOM	
	III	CSE	Fluid Power-II	Theory of Machine-II		
	IV	RAC/Robo	I. C. Engine	ORT		
Saturday	II	EVS	MT	Material Science	M-III	
	III	RES	CSA-II	Aptitude training		
	IV	AE/AMS	ORT	RAC/Robo		

Second Year		Third Year		Final Year	
Subject	Name of the Staff	Subject	Name of the Staff	Subject	Name of the Staff
H&P	Prof. G. S. Mahalle	FP-II	Prof. G. S. Mahalle	ORT	Dr. S. M. Tondare
MS	Prof. S. G. Dalu	TOM-II	Prof. A. S. Shaikh	ICE	Prof. D. K. Chavan
MT	Dr. P. R. Wadnerkar	CSE	Prof. P. K. Shivankar	ROBO	Prof. R. S. Pokale
EC-I	Prof. Y. D. Bansod	CS	Prof. M. G. Walecha	AMS	Prof. S. S. Mendhe
BEDC	Prof. Duchakke	CSA-II	Prof. S. V. Mishra	RAC	Prof. V. G. Gore
CAD	Prof. R. S. Pokale	RES	Prof. S. P. Yeole	AE	Prof. N. R. Deshmukh
EVS	Prof. Kukalkar	Apt. Training	Prof. Bhattad		

G.S Mahalle

Time Table I/C

HoD

Dean Academics

P.R.Pote (Patil) College of Engineering and Management, Amravati

Department of M. C. A.

Online Teaching Feedback on 20/5/21– Winter 20

I Year (I- Sem)

Sr.No.	Name of Faculty	Sub Name	Feedback %
1.	Prof. A. S. Bhande	ACA	94.53
2.	Prof. P. S. Thombare	OS	94.23
3.	Prof. S. M. Jadhav	DCN	94.07
4.	Prof. R. V. Mahule	DSA	94.41
5.	Prof L. S. Bhattad	MST	91.53
Overall Feedback			**93.75**

II Year (IV-Sem)

Sr.No.	Name of Faculty	Sub Name	Feedback %
1.	Prof. A. S. Bhande	DMDW	95
2.	Prof. P. S. Thombare	CSC	95
3.	Prof. S. M. Jadhav	AI	95
4.	Prof. R. V. Mahule	MCG	95
Overall Feedback			**95**

R.V. Mahule
for Prof .R. V. Mahule

Academic I/C

Bhande
Prof. A. S. Bhande

HOD, MCA

H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Yathore Road, Amravati

P.R.Pote (Patil) College of Engineering and Management, Amravati
Department of M. C. A.
Consolidated Feedback Analysis – S21
First Year (II- Sem)

Sr.No.	Name of Faculty	Sub Name	Feedback %
1.	Prof. A. S. Bhande	Advance DataBase Management System	84.44
2.	Prof. P. S. Thombare	Client Server Computing	84.38
3.	Prof. S. M. Jadhav	Software Engg	82.38
4.	Prof. R. V. Mahule	Data Security	84.75
5.	Prof L. S. Bhattad	Artificial Intelligence	79.88
Overall Feedback			**83.17**

Signature
Academic Dean

Signature
Head, MCA

H.O.D. Dept. of MCA
P.R. Pote (Patil) Education & Welfare Trust's
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

P. R. Pote Patil College of Engineering and Management, Amravati
Department of Applied Science & Humanities
Online Teaching Feedback
Odd Semester 2020-21
Group-A

Class: First Year, Sem-I (Section-A)

Dt. 18/04/2021

Sr. No	Name of Faculty	Subject	Feedback
1.	Prof. S.S. Nerkar	Engg. Math-I	95%
2.	Dr. N.R. Thakare	Engg. Physics	91%
3.	Prof. P.N. Deshmukh	Engg. Mechanics	93%
4.	Prof. A.V. Dahat	Comp. Prog.	93%
Overall Feedback			**93%**

Class: First Year, Sem-I (Section-B)

Sr. No	Name of Faculty	Subject	Feedback
1.	Dr. S.A. Bhojane	Engg. Math-I	91%
2.	Dr. S.A. Patil	Engg. Physics	92%
3.	Prof. P.N. Deshmukh	Engg. Mechanics	95%
4.	Prof. S.S. Deshmukh	Comp. Prog.	97%
Overall Feedback			**94%**

Class: First Year, Sem-I (Section-C)

Sr. No	Name of Faculty	Subject	Feedback
1.	Dr. S.A. Khapare	Engg. Math-I	95%
2.	Dr. N.R. Thakare	Engg. Physics	92%
3.	Prof. A.N. Ali	Engg. Mechanics	89%
4.	Prof. P.H. Dhole	Comp. Prog.	93%
Overall Feedback			**92%**

Feedback **In-charge**
Dr. S.A. Khapare
Prof. P.N. Deshmukh
Prof. A. V. Dahat

Head of Department
Dr. N.R. Thakare

P. R. Pote Patil College of Engineering and Management, Amravati
Department of Applied Science & Humanities
Online Teaching Feedback
Odd Semester 2020-21
Group-A

Class: First Year, Sem-I (Section-A)

Dt. 28/05/2021

Sr. No	Name of Faculty	Subject	Feedback
1.	Prof. S.S. Nerkar	Engg. Math-I	94%
2.	Dr. N.R. Thakare	Engg. Physics	91%
3.	Prof. P.N. Deshmukh	Engg. Mechanics	94%
4.	Prof. A.V. Dahat	Comp. Prog.	91%
Overall Feedback			**93%**

Class: First Year, Sem-I (Section-B)

Sr. No	Name of Faculty	Subject	Feedback
1.	Dr. S.A. Bhojane	Engg. Math-I	91%
2.	Dr. S.A. Patil	Engg. Physics	92%
3.	Prof. P.N. Deshmukh	Engg. Mechanics	94%
4.	Prof. S.S. Deshmukh	Comp. Prog.	93%
Overall Feedback			**93%**

Class: First Year, Sem-I (Section-C)

Sr. No	Name of Faculty	Subject	Feedback
1.	Dr. S.A. Khapare	Engg. Math-I	96%
2.	Dr. N.R. Thakare	Engg. Physics	94%
3.	Prof. A.N. Ali	Engg. Mechanics	93%
4.	Prof. P.H. Dhole	Comp. Prog.	95%
Overall Feedback			**95%**

Feedback **In-charge**
Dr. S.A. Khapare
Prof. P.N. Deshmukh
Prof. A. V. Dahat

Head of Department
Dr. N.R. Thakare

P. R. Pote Patil College of Engineering and Management, Amravati
Department of Electronics and Telecommunication Engineering
Online Teaching Feedback
Even Semester 2020-21

Class: Second Year
(Sem-4)

Sr. No	Name of Faculty	Subject	Feedback
1	Dr. G. D. Dalvi	AC	87.83
2	Prof. R. D. Sushir	ADC	83.77
3	Prof. B. R. Mankar	NT	82.93
4	Prof. A. R. Pawade	SS	86.28
5	Prof. V. B. Langote	V&E	88.53
6	Prof. M. Kukalkar	EVS	82.57
Overall Feedback			**85.32%**

Class: Third Year
(Sem-6)

Sr. No	Name of Faculty	Subject	Feedback
1	Dr. R. D. Ghongade	DSP	89.69
2	Prof. U. W. Hore	MPA	88.94
3	Prof. V. B. Padole	DCOM	87.70
4	Prof. S. K. Nanda	CSE	86.96
5	Prof. S. S. Sagane	ECOM	86.83
6	Prof. S. Sonkhaskar	C. Skill	88.07
Overall Feedback			**88.03%**

Class: Final Year
(Sem-8)

Sr. No	Name of Faculty	Subject	Feedback
1	Prof. P. N. Pusdekar	UHF&MW	92.68
2	Prof. G. D. Nagoshe	DCN	90.30
3	Prof. S. P. Bhonge	WC	92.92
4	Prof. U. W. Hore	Bio. Med.	91.19
Overall Feedback			**91.77 %**

P. N. Pusdekar
Academic Incharge

Dr. R. D. Ghongade
HOD, EXTC

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

30

P. R. Pote College of Engineering and Management, Amravati

Department of Electronics and Telecommunication Engineering

Theory Feedback

Odd Semester 2020-21

Class: Second Year

(Sem-III)

Sr. No	Name of Faculty	Subject	Feedback
1	Dr. G. D. Dalvi	EDC	94
2	Prof. G. D. Nagoshe	EMF	91
3	Prof. S. A. Bhojne	M-III	91
4	Prof. V. B. Langote	DSD	93
5	Prof. V. B. Bhagat	OOP	82
Overall Feedback			90.2%

Class: Third Year

(Sem-V)

Sr. No	Name of Faculty	Subject	Feedback
1	Dr. R. D. Ghongade	PE&D	89
2	Prof. U. W. Hore	IMP	89
3	Prof. R. D. Sushir	CE-II	89
4	Prof. S. P. Bhonge	AE-II	89
5	Prof. B. R. Mankar	ICN	84
Overall Feedback			88 %

Class: Final Year

(Sem-VII)

Sr. No	Name of Faculty	Subject	Feedback
1	Prof. A. R. Pawade	VLSI Design	94
2	Prof. P. N. Pusdekar	DIP	93
3	Prof. P. N. Pusdekar	SFOC	93
4	Prof. S. K. Nanda	IMQC	90
5	Prof. R. D. Sushir	P. Elective	95
Overall Feedback			93 %

Academic Incharge

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

31

P.R.Pote Patil College of Engineering and Management, Amravati

Department of Electronics and Telecommunications Engineering

Counselling Detail - Final Year 2020-21 (Odd)

Counsellor	Student Name	Name of Parent	Student's Contact No.	Parent Contact No.	Date of Contact	Discussion
Prof. S. P. Bhonge	Ms. Pooja G. Ambalkal	Mr. Gajanan PandhariAmbalkar	9850948304	8983382977	05/07/2020 (11.30am) & 10/07/2020 (5.30 pm)	Following points are discussed in counselling meeting held on Goggle talk : 1)Health of student & Family, Awareness regarding new notification from WHO (airborne transmission of corona) 2) University Examination Notification & Backlog Examination of previous semester 3) Online Classes (lectures) 4) Project of final year & seminar topic searching for current seventh sem 5) Online training of T&P will start from 13/07/2020 6) awareness of Department facebook page & its activity 7) New academic session admission & last year clearance
	Ms. Pratiksha D. Sabale	Mr. DnyanashwarMartorao Sable	7743968872	9511673220		
	Ms. Rakhi V. Javanjal	Mr. Vasudeo Shriram Javanjal	9156608594	9764274145		
	Ms. Rewati U. Sapkal	Mr. Umesh Narayan Sapkal	9130677619	7709859484		
	Ms. Rupali V. Marke	Mr. VitthalKashiramMarke	9730085165	9503787693		
	Ms. Rutuja P. Ghatole	Mr Pramod NarayanraoGhatole	9767558392	9689846936		
	Ms. Rutuja S. Pundkar	Mr. Shrikant Narayan Pundkar	9325794426	9764495587		
	Ms. Rutuja S. Kalbande	Mr. Suresh BabaraoKalbande	9172658948	9403173223		
	Ms. Sakshi S. Malasane	Mr. Sudhirrao H.Malasane	9284329010	9823271769		
	Ms. Sakshi S. Tidake	Mr. Suresh Shriram Tidake	8459984335	9049751698		
	Ms. Saloni S. Gupta	Mr. Sanjay Pannalal Gupta	9096167080	9890715621		
	Ms. Samiksha D. Duryodhan	Mr. Dilip Mohan Duryodhan	9284347552	9518962431		
	Ms. Shamal P. Kalmegh	Mr. Pramod ShriramjiKalmegh	8806530052	9970191099		
	Ms. Shraddha S. Harane	Mr. Sushil Harne	9657796902	9881777978		
	Ms. Shubhangi P. Bambal	Mr. Pramod M.Bambal	9168335619	9970366327		
	Ms. Shruti S. Belokar	Mr. Sanjay Rajaram Belokar	9834129329	8888974004		
	Ms. Shweta M. Anasane	Mr. Mohan RambhauAnasae	8999453371	7875096480		
	Ms. Snehal V. Bharsakale	Mr. Vijay ShravanjiBharsakle	7756926411	9850189340		

	Ms. Surabhi S. Dhole	Mr. Satyawan Bhimrao Dhole	8805734225	9730211959		
Prof. P. N. Pusdekar	Ms. Tanvi VijayraoWatane	VijayraoWatane	7030776073	9970695908	14/06/2020, 06/07/2020 (4.30 pm) 27/07/2020 at 5.00 pm	**14/06/2020** 1) Corona awareness and Health status, 2) Status of Studies 3)Fees status Department Activities (Webinars, Alumni Talks, T & P trainings etc.), University Notification regarding exams **06/07/2020** 1) Classes will conducted in online mode 2) Classes will conducted as per SGBAU University directions &conveyed 5-days before **27/07/2020** 1) Departmental activities like Webinars, Alumni Talk, T&P Related activities were discussed 2) Remainder of the previous year fees to be completed. They are also made aware of the 10% and 5% concession on 100% and 50% payment on fees. 3) Students will not be admitted to higher class if their previous year fees is incomplete 4)Asked about project status: Topic, Guide, Area of Interest etc
	Ms. Ujwal Rajendra Deole	Rajendra Deole	8806586199	8806586199		
	Ms. Vaishali L. Bhongade	Laxman Bhongade	7558412993	7558412993		
	Ms. Vaishnavi D. Harane	Dnyaneshwar Harane	7038632753	7038632753		
	Mr. Adarsh A. Rawankar	Anil SahebraoRawankar	9112102376	9021854482		
	Mr. Akshay G. Hatwar	GajananraoHatwar	9145711073	9922855840		
	Mr. Ashish D. Patekar	DilipPatekar	9890349744	9657612517		
	Mr. Dhananjay S. Katre	Sanjay Ambadas Katre	8007195971	9326867643		
	Mr. Gaurav Paikrao	Sharad GanpatraoPaikrao	9130478764	9689566029		
	Mr. Kartik R. Kakad	Ravindra BramhadevraoKakad	8237271921	9970695908		
	Mr. Mandar S. Bhalerao	SunilraoBhalerao	9834205128	9096598305		
	Mr. Manish Jagdish Band	Jagdishrao Band	8623898398	8623898398		
	Mr. Pawan S. Langote	SantoshraoLangote	8149916770	8149916770		
	Mr. Pratik Sanjay Giramkar	Sanjay Giramkar	8805033436	8805033436		
	Mr. Pravin Santosh Rathod	Santosh Atmaram Rathod	8605821366	7498152515		
	Mr. Shailesh A. Wankhade	Arun GovindaWankhade	9822284425	8669471448		
	Mr. Shubham Rathod	Subhash Devsingh Rathod	8605219753	9423652238		
	Mr. Shubham Shende	Eknath Shravan Shende	7058895923	9404134157		
	Mr. Sunny D. Tawar	Dipak RamkisansinghTawar	8605839845	9096713133		

P. N. Pusdekar

Academic I/c

Dr. G. D. Dalvi

Dean Academics

Dr. R. D. Ghongade

Head of Dept, EXTC

H.O.D. (E.X.T.C. Dept.)
P.R.Pote (Patil) Coll... Engg. & Management
Amravati.

P.R.Pote Patil College of Engineering and Management,Amravati

Department of Electronics And Telecommunications Engineering

Couselling Detail - Final Year 2020-21

Sr.No	Name of Counsellor	Student Name	Parent Name	Student Contact No.	Parent Contact No	Date of Contact	Discussion Details
1	A. R. Pawade	Ms. Ankita Deshmukh	Anant Prabhakarao Deshmukh	7385478961	9665666017	10/02/2021 & 27/02/2021	**Meeting-1** Following are the points covered in the meeting 1.Regarding any issue related to the online classes. 2. Related to the examination 3. Fees completion of past three years 4. 50% fees completion of current year **Meeting-2** Following points are discussed 1. Preparation for upcoming university exam. 2. Online class status. 3 Syllabus coverage status. 4. Class test & Unit test 5. Notes, Books.
2		Ms. Anuja Dinesh Tarale	Dinesh ManoharraoTarale	9284181464	8379996342		
3		Ms. Anuja R. Hingne	Ravindra Gangadhar Hingne	9284596283	9637387828		
4		Ms. Apurva G. Pathare	GajanaanChinnujiPathare	9860715096	9860715096		
5		Ms. Ashwini Pawar	LiladharRaghunathrao Pawar	7448297124	9503159680		
6		Ms. Avanti A. Tekadpande	Anil VasantaraoTekadpande	9545508928	9423689018		
7		Ms. Barakha P. Nirapure	Prakash Umesh Nirapure	7757903511	9767057754		
8		Ms. Dhanashri S. Chaudhari	Suresh Vishnupant Chaudhari	7028843599	9423622914		
9		Ms. Dhanashri S. Bhojapure	Suresh GulabraoBhojapure	9766917327	8600200591		
10		Ms. Diksha Ambadkar	DilipHiralaljiAmbadkar	9607228558	9022311710		
11		Ms. Disha N. Gharat	NathhuVithhalrao Gharat	7559379008	9405350487		
12		Ms. Divya D. Kharbade	Divakar WamanraoKharbade	9834406176	8308028324		
13		Ms. Ekta M. Borkar	Manohar Nathhuji Borkar	9860705622	9860705622		
14		Ms. Ekta Rajesh Kodhe	Rajesh VithhalraoKodhe	7378691581	9665114941		
15		Ms. Kranti P. Thakare	Prafulla ManoharraoThakare	9021549363	7620988456		
16		Ms. Mansi D. Sanghani	Devendra JamnadasSanghani	7972794228	9921707069		

17		Ms. Mrunal S. Deshmukh	Santosh Bapurao Deshmukh	9075183641	9765563281		6 Fees status till date & 50 % fees to be paid before hall ticket distribution. 7. Heath status
18		Ms. Mrunali D. Mohod	DyaneshwarAnandraoMohod	7770071418	9823043788		
19		Ms. Neha V. Mankar	VasantraoVithhalraoMankar	8412036630	8412036630		
20	Prof. S. P. Bhonge	Ms. Pooja G. Ambalkal	Mr. Gajanan PandhariAmbalkar	9850948304	8983382977	10/02/2021 & 27/02/2021	**Meeting-1** Following points have been discussed in counselling meeting: 1. Online lecture feedback 2. SGBAU Online Practical exam conduction. 3. Online theory exam pattern. 4. PL for theory exam. 5. Fees status till date. 6 Subject material for the current semesters etc
21		Ms. Pratiksha D. Sabale	Mr. DnyanashwarMartorao Sable	7743968872	9511673220		
22		Ms. Rakhi V. Javanjal	Mr. Vasudeo Shriram Javanjal	9156608594	9764274145		
23		Ms. Rewati U. Sapkal	Mr. Umesh Narayan Sapkal	9130677619	7709859484		
24		Ms. Rupali V. Marke	Mr. VitthalKashiramMarke	9730085165	9503787693		
25		Ms. Rutuja P. Ghatole	Mr Pramod NarayanraoGhatole	9767558392	9689846936		
26		Ms. Rutuja S. Pundkar	Mr. Shrikant Narayan Pundkar	9325794426	9764495587		
27		Ms. Rutuja S. Kalbande	Mr. Suresh BabaraoKalbande	9172658948	9403173223		
28		Ms. Sakshi S. Malasane	Mr. SudhirraoHarishchandrraoMalasane	9284329010	9823271769		
29		Ms. Sakshi S. Tidake	Mr. Suresh Shriram Tidake	8459984335	9049751698		
30		Ms. Saloni S. Gupta	Mr. Sanjay Pannalal Gupta	9096167080	9890715621		**Meeting-2** Following points are discussed 1. Preparation for upcoming university exam. 2. Online class status. 3 Syllabus coverage status. 4. Class test & Unit test 5. Notes, Books. 6 Fees status till date & 50 % fees to be paid before hall ticket
31		Ms. Samiksha D. Duryodhan	Mr. Dilip Mohan Duryodhan	9284347552	9518962431		
32		Ms. Shamal P. Kalmegh	Mr. Pramod ShriramjiKalmegh	8806530052	9970191099		
33		Ms. Shraddha S. Harane	Mr. Sushil Harne	9657796902	9881777978		
34		Ms. Shubhangi P. Bambal	Mr. Pramod MadhukarraoBambal	9168335619	9970366327		
35		Ms. Shruti S. Belokar	Mr. Sanjay Rajaram Belokar	9834129329	8888974004		
36		Ms. Shweta M. Anasane	Mr. Mohan RambhauAnasae	8999453371	7875096480		
37		Ms. Snehal V. Bharsakale	Mr. Vijay ShravanjiBharsakle	7756926411	9850189340		
38		Ms. Surabhi S. Dhole	Mr. Satyawan Bhimrao Dhole	8805734225	9730211959		

							distribution. 6. Heath status
39	Prof. P. N. Pusdekar	Ms. Tanvi V.Watane	VijayraoWatane	7030776073	9970695908	04/02/2021 & 27/02/2021	**Meeting-1** Following points have been discussed in counseling meeting: 1. Online lecture feedback 2. SGBAU Online Practical exam conduction. 3. Online theory exam pattern. 4. PL for theory exam. 5. Fees status till date. 6 Subject material for the current semesters etc **Meeting-2** Following points are discussed in meeting: 1. Preparation for upcoming university exam. 2. Online class status. 3 Syllabus coverage status. 4. Class test & Unit test 5. Notes, Books. 6 Fees status till date & 50 % fees to be paid before hall ticket distribution.
40		Ms. UjwalDeole	Rajendra Deole	8806586199	8806586199		
41		Ms. Vaishali L. Bhongade	Laxman Bhongade	7558412993	7558412993		
42		Ms. Vaishnavi D. Harane	Dnyaneshwar Harane	7038632753	7038632753		
43		Mr. Adarsh A. Rawankar	Anil SahebraoRawankar	9112102376	9021854482		
44		Mr. Akshay G. Hatwar	GajananraoHatwar	9145711073	9922855840		
45		Mr. Ashish D. Patekar	DilipPatekar	9890349744	9657612517		
46		Mr. Dhananjay S. Katre	Sanjay Ambadas Katre	8007195971	9326867643		
47		Mr. Gaurav Paikrao	Sharad GanpatraoPaikrao	9130478764	9689566029		
48		Mr. Kartik R. Kakad	Ravindra B.Kakad	8237271921	8237271921		
49		Mr. Mandar S. Bhalerao	SunilraoBhalerao	9834205128	9096598305		
50		Mr. Manish Jagdish Band	Jagdishrao Band	8623898398	8623898398		
51		Mr. Pawan S. Langote	SantoshraoLangote	8149916770	8149916770		
52		Mr. Pratik S.Giramkar	Sanjay Giramkar	8805033436	8805033436		
53		Mr. Pravin S. Rathod	Santosh Atmaram Rathod	8605821366	7498152515		
54		Mr. Shailesh Wankhade	Arun GovindaWankhade	9822284425	8669471448		
55		Mr. Shubham Rathod	Subhash Devsingh Rathod	8605219753	9423652238		
56		Mr. Shubham Shende	Eknath Shravan Shende	7058895923	9404134157		
57		Mr. Sunny D. Tawar	Dipak RamkisansinghTawar	8605839845	9096713133		

Class Coordinator

HoD, EXTC Dept.

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P.R.Pote Patil College Of Engineering And Management, Amravati

Department of Electronics and Telecommunications Engineering

Counselling Detail - Third Year 2020-21 (Even)

Counsellor	Student Name	Name of Parent	Student's Contact No.	Parent Contact No.	Date of Contact	Discussion
Prof. R. D. Sushir	Ms. Aarti OmkarraoGade	Omkar VikramjiGade	9881954404	9767853250	04/02/2021, 15/02/2021, 24/02/2021	for month of February ,counseling meeting was held on 04/01/2021 for upcoming SGBAU theory and practical exam schedule, format and attendance. Along with that important topic discussed was tution fees related issues. also student were asked to appear nptel course exam and internship. For regular class attendance students were advised to take online classes and discussion meetings seriously and prioritize things to do. second meeting of February was held on 15/02/2021 for mock test, rules, sgbau winter 2020 pattern, not to use Google search or other search engines, not to take exam casually, remain in network, take care of health. most important thing emphasized was tution fees payment before hall ticket issue is must..
	Ms. Aboli Arun Pahurkar	Arun Pandurang Pahurkar	8788754316	9373601249		
	Ms. Amruta Ravindra Khalokar	Ravindra S. Khalokar	7756087455	9890644311		
	Ms. Ankita Ulhasrao Wankhede	UlhasraoBhaurao Wankhede	9067011648	9975997234		
	Ms. Chetna LiladharMaske	LiladharVithobajiMaske	8551033414	7498633957		
	Ms. Dharti Dnyaneshwar Khadse	Dnyaneshwar S. Khadse	8975559243	7720009101		
	Ms. Divya Kishor Bhoyar	Kishor TulsiramjiBhoyar	8788450971	9595224225		
	Ms. Komal ShridharraoBansod	Shridhar NamdevraoBansod	7517402513	8805260577		
	Ms. Lavina Ramesh Thakur	Ramesh Chinamal Thakur	8805126046	9326919353		
	Ms. Monali Vijaykumar Bhutada	Vijaykumar L. Bhutada	8975465208	9422546347		
	Ms. Nainika Arvind Gangane	Arvind VasudeoraoGangane	8830996985	9623024035		
	Ms. RoshaniGaneshraoAnde	Ganesh GulabraoAnde	7499382198	8550956869		
	Ms. Rucha Sanjay Akarte	Sanjay RamchandrajiAkarte	7875721661	7875721661		
	Ms. Rutuja Dinesh Kolhe	Dinesh PandurangjiKolhe	7498066196	9975053971		
	Ms. RutujaSunilraoThakare	SunilraoAjabraoThakare	9359765261	9359772750		
	Ms. SayyadaAdeeba Firdous	Syed Saeed Ahmed	8668402949	9890529822		
	Ms. Sakshi Kishore Bhabutkar	Kishore VasudeoBhabutkar	9370496519	9096282178		
	Ms. Sakshi Sanjay Bhonde	Sanjay VasantraoBhonde	9146917305	9404107054		
	Ms. Samiksha S. Thakur	Surajsingh S. Thakur	8087800146	9823548213		

Prof. U. W. Hore	Mr. AkshayThakare	Suresh SudamThakare	8605323357	9511270266	13-02-2021 & 24/02/2021	**Meeting on 13/02/21 following points discussed** SGBAU Theory & Practical Exam schedule, clearence of tution fees NPTEL courses &intership&Helth care from covid **Meeting on 24/02/21** Regarding information about postponed of SGBAU exam , focus on revision &clearence of tution fees. Network & data issue while handling Nptel Video
	Mr. Nikhil Deshmukh	NareshraoAshokrao Deshmukh	7057895163	9404124329		
	Mr. Pratik Sonone	Anil ShivramSonone	8329739923	9881790419		
	Mr. Prasad Bundele	Suresh kisanraoBundele	7709437460	8668982960		
	Mr. Suraj Mahalle	Mohanraokashiramjimahalle	9834107883	9689748479		
	Mr. Rushikesh N. Kale	Nandkishorchampatrao kale	9665167557	9923317271		
	Ms. Aishwarya Kale	Pournimasafal kale	8999327978	8378855874		
	Ms. Vaishnavi J. Pawar	Jivan Yashwantrao Pawar	8177990072	9422915351		
	Ms. Vaishnavi Bondre	Chetan NilkantharaoBondre	9130601195	9403030916		
	Mr. Shubham K. Javeri	KiransinghNarayansinghJaveri	9763075754	8788030374		
	Ms. AachalWankhade	Vilas devraoWankhade	7083009170	9552375261		
	Ms. Vaishnavi S. Jadhav	Santosh Kisanrao Jadhav	7721855304	8999756748		
	Ms. Vedika Punse	Sunil BapuraojiPunse	8999161457	8007931639		
	Mr. Ajay Uike	Vilasrao MotiramjiUike	8237326768	9421742558		
	Mr. AkshayDabade	sidharthaatmarodabhade	7709256463	8390684556		
	Mr.PawanKakad	GajananraoKakd	9011430516	9421892418		
	Ms.PriyankaRisodkar	Gajananrao M. risodkar	9834022312	9850686284		
	Mr. Umesh Pardeshi	Laxman PremnathPardeshi	8482961442	7391868098		

P. N. Pusdekar

Academic I/c

Dr. G. D. Dalvi

Dean Academics

Dr. R. D. Ghongade

Head of Dept, EXTC

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg. & Managem...
Amravati.

P. R. Pote College of Engineering & Management, Amravati

Department of Electronics and Telecommunication Engg.

Report on

Two Days Workshop on

"How To Learn Java Step By Step"

Name of Course	How To Learn Java Step By Step
Nature of Course	Training
Career Opportunity	Junior Developer. Senior Developer. Java Web Developer. Java Android Developer. Java EE developer.
Objectives of the Course	Acquaint participants with the basics of Java programming and its application areas. Impart knowledge on the advanced Java tool and different concepts that will be helpful to build real time applications. Enable participant to convert their product idea into a working prototype. Bring-up participant to new innovation in the field of Programing.
Outcomes of the Course	To explain basic Java programming and its application. To describe the Java programming and compare its configuration.
Name of Resource Person	Mr. Vallabh Paratkar
Course Duration	24th April to 25th April 2021
Target Participants	Students of Department of Electronics and Telecommunication Engineering.

Course Structure & Syllabus

Java Programming

Unit I: Java features, Program Structures. Fundamentals of Java Programming, Primitive data types and operations, Selection statements, loops, Methods and Arrays in Java.

Unit II: Classes & Objects in Java, Creating Objects, Methods, Constructors, Class Variable and Methods, this keyword, Arrays of objects, String class, Character class, StringBuffer class, Command Line Arguments. File class, Text I/O.

Unit III: Inheritance: Inheritance vs. Aggregation, super keyword, final keyword, Method Overriding & overloading. Object class, ArrayList class. Protected data & methods, Final classes, methods & variables. Abstract classes and Interfaces.

Unit IV: CUI programming: GUI components, Java GUI API, frames, layout managers, Color class, Font class, Panels, Swing GUI components, Image icons. Graphics class, Polygon class.

P. R. Pote (Patil) Edu. & Welf.Trusts Group of Institutions College of Engineering & Management, Amravati.

Department of Electronics & Telecommunication Engg.

Session2019-20

ETSA

(*Electronics &Telecommunication Engineering Student Association*)

NOTICE

Date: 15/04/2021

All the students of Electronics & Telecommunication Engg. Dept. are hereby informed that, our departmental is going to organize **Two Days Workshop on "How To Learn Java Step By Step"** from 24th April to 25th April 2021. All the students are hereby informed that they have to register for Workshop.

Faculty Coordinator

HOD (EXTC)

Participant Feedback

certificate and exam (Responses) - Microsoft Excel

A40 | 7/5/2020 1:47:37 PM

	E	F	G	H	I	J	K	L
1	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works
2	Nainka Amnerao Gangan	nainikagangane2020@gm	8830936585	5	5	5	5	Yes
3	Rupali Vitthal Marke	rupalimarke123@gmail.cc	9356872259	5	5	5	5	Yes
4	MOHAN R. SARDAR	mohansardar76 @gmail.c	8600573732	4	5	5	5	Yes
5	Pooja Gajanan Ambalkar	ambalkarp55@gmail.com	9850948304	5	5	5	5	Yes
6	Kartik Kakad	kartikkakad77@gmail.cor	8237271521	5	5	5	5	Yes
7	Shruti Sanjay Belokar	belokarshruti@gmail.com	9834129329	5	5	5	4	Yes
8	Divya Diwakar Kharbade	divyakharbade@gmail.cor	9834406176	5	5	5	5	Yes
9	Sakshi Sudhir Malasare	sakshimalasare@gmail.c	9264329010	5	5	5	5	Yes
10	Pratiksha Dnyaneshwar S	pratikshasable998@gmail	7743938672	4	4	3	4	Yes
11	Sakshi Suresh Tidake	sakshitidake.3@gmail.coi	8459934335	5	5	5	5	Yes
12	Ankita Anantrao Deshmul	ankudeshmukh98@gmail.	7365478961	5	5	5	5	Yes
13	Vaishnavi Pawar	vaishnavipawar392@gmai	8177990072	5	5	5	5	Yes
14	Sunny Tawar	sunnytawarrajput@gmail.	+918605839845	5	5	5	5	Yes
15	Samiksha Surajsingh Tha	thakursamiksha12345@g	8087830146	5	5	5	5	Yes
16	Aarti Omkarrao Gade	aartigade1939@gmail.cor	9861954404	5	5	5	5	Yes
17	Dhananjay Sanjay Katre	dhananjaykatre05@gmail.	8007135971	5	5	4	4	Yes
18	Shweta Mohan Anasane	shwetaanasane195@gma	8959453571	5	5	5	5	Yes
19	Rutuja pramod Ghatole	rutujaghatole4@gmail.cor	9767558392	5	5	5	5	Yes
20	Shraddha Harne	Shraddhaharne25@gmail.	9657736502	5	5	5	5	Yes
21	Rakhi vasudeo javarjal	rakhijavanja98@gmail.coi	9834935765	4	5	4	5	Yes
22	Mrunali Dnyaneshwar Mol	mrunalimohod1999@gma	7770071418	5	5	5	5	Yes
23	Rutuja Suresh kalbande	rutujakalbande1230@gma	8459357563	4	4	4	3	Yes
24	Monali Vijaykumar Bhutar	bhutadamonali@gmail.coi	8976455208	5	5	5	5	Yes

Form Responses 1

certificate and exam (Responses) - Microsoft Excel

A40 | 7/5/2020 1:47:37 PM

	E	F	G	H	I	J	K	L
	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works
25	Revati Umesh Sapkal	revatisapkal51@gmail.cc	9130577619	5	5	5	5	Yes
26	Shardul P.Bhogaonkar	shardu bhogaonkar123@g	9119507754	5	5	5	5	Yes
27	Avanti Anil Tekadpande	avantitekadpande20@gm	9645500928	5	5	5	5	Yes
28	Ashwini Jadhav Pawar	ashwinipawar4558@gmail	7448297124	5	5	5	5	Yes
29	Vaishnavi Dnyaneshwar H	vaishnavharne4321@gma	7038502753	5	5	5	5	Yes
30	Neha Vasantrao Mankar	nehamankar1999@gmail.	9412006630	5	5	5	5	Yes
31	Abhijeet Gupta	abhijeet.gupta.kk99@gma	32087 6738	5	3	4	4	Yes
32	Hrutvik Dipakrao Dahi	hrutvikdahi763@gmail.co	76584 4206	4	3	[illegible]	5	Yes
33	Lavina Ramesh Thakur	lavinathakur250@gmail.cc	3805126046	3	2	3	3	Yes
34	Aboli Arun Pahurkar	abolipahurkar2908@gmail	3788754316	3	3	4	4	Yes
35	Ekta Rajesh Kodhe	ekodhe190@gmail.com	7378591531	5	5	5	5	Yes
36	Swapnil S. Makode	swapnilmakode5@gmail.c	91725 3653	4	4	4	3	Yes
37	Roshani G Ande	roshanaande25@gmail.c	7499382138	5	5	5	5	Yes
38	Snehal Vijay Bharsakle	snehalbharsakle95@gmai	7756926411	5	5	5	5	Yes
39	Disha Natthu Gharat	gharat.disha205@gmail.c	7559379008	4	4	4	3	Yes
40	Amruta Ravindra Khalokai	amrutakhalokar28@gmai	7756087455	4	4	4	3	Yes
41	Dnyanesh Sudhakar Kolh	dnyaneshkolhe1@gmail.c	9329774676	5	5	5	5	Yes
42	Dhanashri Suresh Bhojap	bhojapuredhanashri1999	37669 7327	5	5	4	5	Yes
43	Dhanashri Sureshrao Cho	dhanashrichoudhari001@	7028943539	5	5	5	5	Yes
44	Vaishali L.Bhongade	vaishalibhongade6@gmail	75584 2930	4	5	5	5	Yes
45	Saloni Sanjay Gupta	saloni2000gupta@gmail.c	3096167030	5	5	5	5	Yes
46	Yogita Nanaji Chokane	yogitachokane2000@gma	7350162750	4	4	4	4	Yes
47	Diksha Dilip Ambadkar	ambadkardiksha123@gm	9607226558	5	5	5	5	Yes

Form Responses 1

	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowledge	Was Presentation effective to tell you	Have you enjoyed workshop?	Would you like to join more such session (V
25	Rewati Umesh Sapkal	rewati.sapkal51@gmail.co	9130377619	5	5	5	5	Yes
26	Shardul P. Bhogaonkar	shardulbhogaonkar123@g	9119507764	5	5	5	5	Yes
27	Avanti Arit Tekadpande	avantiakadpande20@gm	9545505528	5	5	5	5	Yes
28	Ashwini Liladhar Pawar	ashwinipawar4598@gmail	7418297124	5	5	5	5	Yes
29	Vaishnav Dnyaneshwar H	vaishnavhame4321@gma	7038532763	5	5	5	5	Yes
30	Neha Vasantrao Mankar	nehamankar1999@gmail	8412036630	5	5	5	5	Yes
31	Abhijeet Gupta	abhijeet.gupta.kk39@gma	8208716738	5	3	4	4	Yes
32	Hrutwik Dipakrao Dalv	hrutwikdalvi783@gmail.co	7558414208	4	3	4	5	Yes
33	Lavina Ramesh Thakur	lavinathakur250@gmail.co	8605128046	3	2	3	3	Yes
34	Aboli Arun Pahurkar	abolipahurkar2908@gmail	8788754316	3	3	4	4	Yes
35	Ekta Rajesh Koche	ekoche199@gmail.com	7378591581	5	5	5	5	Yes
36	Swapnil S. Makode	swapnilmakode5@gmail.c	9172513663	4	4	4	3	Yes
37	Roshani G Ande	roshaniaande25@gmail.c	7499382198	5	5	5	5	Yes
38	Snehal Vijay Bharsakle	snehalbharsakle99@gmai	7756926411	5	5	5	5	Yes
39	Disha Nathu Ghorat	ghorat.disha205@gmail.c	7559375008	4	4	4	3	Yes
40	Amruta Ravindra Khaloka	amrutakhalokar28@gmai	7756087455	4	4	4	3	Yes
41	Dnyanesh Sudhakar Koh	dnyaneshkolhe1@gmail.c	8329774676	5	5	5	5	Yes
42	Dharashri Suresh Bhojap	bhojapuredharashri1959@	9766317327	5	5	4	5	Yes
43	Dharashri Sureshrao Cho	dharashrichoudhari001@	7028343599	5	5	5	5	Yes
44	Vaishali L Bhongade	vaishalibhongade6@gmail	7558412593	4	5	5	5	Yes
45	Salon Sanjay Gupta	salon2000gupta@gmail.c	9096167080	5	5	5	5	Yes
46	Yogita Nanaji Dhokane	yogitadhokane2003@gma	7350462760	4	4	4	4	Yes
47	Diksha Dilip Ambadkar	ambadkardiksha123@gm	9607228558	5	5	5	5	Yes

Analysis and Action Taken

Feedback Form

1. The experience of the session was

52 responses

2. How was the Content delivered ?

51 responses

3. How was the event Structure ?

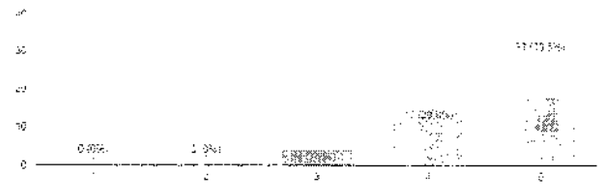
52 responses

4. Overall experience of the session

52 responses

5. How will you rate the session?

52 responses



Course Record (student attendance, assignments, marks obtained)

P. R. Pote (Patil) Edn. & Welfare Trust's, College of Engg. & Management, Amravati		
Department of Electronics & Telecommunication Engg.		
Python Programming Workshop Att		
Timestamp	**Email Address**	**Full Name**
4-24-202015:41:57	pranavbaghele@gmail.com	Pranavbaghele
4-24-202015:41:57	bhartiakshay57@gmail.com	Akshay sunil Bharti
4-24-202015:41:57	shubhambonde139@gmail.com	Shubham annabhau bonde
4-24-202015:41:57	abhishekgohatre@gmail.com	Abhishek N.Gohatre
4-24-202015:41:57	aniketmohod81@gmail.com	Aniket Nandkishor Mohod
4-24-202015:41:57	surakshavbarve17@gmail.com	Suraksha Barve
4-24-202015:41:57	jaynimbalkar38@gmail.com	Suyash Nimbalkar
4-24-202015:41:57	pratishvarma@gmail.com	Pratish Subhashji Varma
4-24-202015:41:57	maheshdhoran5456@gmail.com	Mahesh Dhoran
4-24-202015:41:57	ramholey1998@gmail.com	Ram Gajanan Holey
4-24-202015:41:57	dhanashrigosavi011@gmail.com	Dhanashri Gosavi
4-24-202015:41:57	praags777@gmail.com	Pragati Lalbhadur Verma
4-24-202015:41:57	mayur.barai01@gmail.com	Mayur Ashokrao Barai
4-24-202015:41:57	pathanasim1998@gmail.com	Asim Pathan
4-24-202015:41:57	gauritayde230@gmail.com	Gauri Vijayrao Tayde
4-24-202015:41:57	faizahmedfak@gmail.com	Faiz Ahmed Khan
4-24-202015:41:57	krutikavinchurkar8689@gmail.com	Krutika Sushil Vinchurkar
4-24-202015:41:57	shoyebkhan21@gmail.com	Shoyeb Muhammad
4-24-202015:41:57	nikhilmanekar786@gmail.com	Nikhil Sanjay Manekar
4-24-202015:41:57	mayuriingole111@gmail.com	Mayuri S Ingole
4-24-202015:41:57	kashifshadab.7777@gmail.com	Kashif shadab mohammad salim
4-24-202015:41:57	pujanimkale@gmail.com	Puja Nimkale
4-24-202015:41:57	deepeshnakhale21@gmail.com	Deepesh Ravindra Nakhale
4-24-202015:41:57	shivanigotmare1908@gmail.com	Shivani Vijay Gotmare
4-24-202015:41:57	mehulvsuramwar@gmail.com	Mehul Vilas Suramwar
4-24-202015:41:57	mohininarale99@gmail.com	Mohini M Narale
4-24-202015:41:57	sametkar5012@gmail.com	Samiksha Anil Metkar
4-24-202015:41:57	shivukalivkar@gmail.com	Shivani Ashokrao Kalivkar

4-24-202015:41:57	pranavgangan417@gmail.com	Pranav Rajesh Gangan
4-24-202015:41:57	divyashreemule70@gmail.com	Divyashree Satyashil Mule
4-24-202015:41:57	nishantkale5@gmail.com	Nishant kale
4-24-202015:41:57	anagha2kalmegh@gmail.com	Anagha kalmegh
4-24-202015:41:57	madhurikabelsare@gmail.com	Madhurika Belsare
4-24-202015:41:57	saqlainquazi09@gmail.com	Saqlainuddin Qazi
4-24-202015:41:57	ardakneha@gmail.com	Neha Raju Ardak
4-24-202015:41:57	srushtikhandare30@gmail.com	Srushti gautam khandare
4-24-202015:41:57	devika.81099@gmail.com	Devika Ramhari Wankhade
4-24-202015:41:57	surakshabhele@gmail.com	Suraksha Bhele
4-24-202015:41:57	ashuaraut21@gmail.com	Ashutosh Raut
4-24-202015:41:57	shreyashgedam123@gmail.com	Shreyas devidas gedam
4-24-202015:41:57	shoebsorathiya715@gmail.com	Mohammad Shoeb Mohammad Firoz Sorathiya
4-24-202015:41:57	waghmareaniket7@gmail.com	Aniket Waghmare
4-24-202015:41:57	nehadhole4@gmail.com	Niha Shyam Dhole
4-24-202015:41:57	maheshdeoghare40@gmail.com	Mahesh Deoghare
4-24-202015:41:57	nilimagawali1234@gmail.com	Nilima Gawali
4-24-202015:41:57	mohitdholee@gmail.com	mohit dhole
4-24-202015:41:57	rajsutane@gmail.com	Raj Sutane
4-24-202015:41:57	pranaliingole09@gmail.com	Pranali Ingole
4-24-202015:41:57	purvanimbhorkar@gmail.com	Purva Dnyaneshwarrao Nimbhorkar
4-24-202015:41:57	karandhuratkar28@gmail.com	Karan Dhuratkar
4-24-202015:41:57	shrutikakuware1999@gmail.com	Shrutika Liladhar Kuware
4-24-202015:41:57	prajaktatayade16@gmail.com	Prajakta Arun Tayade
4-24-202015:41:57	prasadalamwar@gmail.com	Prasad Alamwar
4-24-202015:41:57	GHANSHAMLUNGE111@GMAIL.COM	GHANSHYAM GOPAL LUNGE
4-24-202015:41:57	prajwalgawande492@gmail.com	Prajwal Rajendra Gawande
4-24-202015:41:57	roshanibhoyar27@gmail.com	Roshani Ramdas Bhoyar

B. R. Mankar
Programme Coordinator

Dr. R. D. Ghongade
HoD, EXTC Department

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.2	The institution adheres to the academic calendar including for the conduct of CIE

Criteria-1 Curricular Aspects

1.1.2

Content

संत गाडगे बाबा अमरावती विद्यापीठ
(असाधारण)
अधिसूचना

क्रमांक : १५१/२०१९ दिनांक: ९/१२/२०१९

विषय : शैक्षणिक नियामिका .... शैक्षणिक वर्ष २०२०-२०२१
Subject: Academic Calendar.... 2020-2021

सर्व संबंधितांच्या माहिती करीता अधिसूचित करण्यात येते की, शैक्षणिक वर्ष २०२०-२०२१ ची शैक्षणिक नियामिका खालील प्रमाणे राहील.

It is notified for all concerned that, the Academic Calendar for the Academic Session 2020-2021 shall be as under:

तक्ता -१
(Table-1)

अ. क्र. (S.N)	कृती/कार्यक्रम (Activity)	प्रारंभ (Commencement)	समाप्ती (Cessation)	एकूण दिवस (Total Days)
१.	शैक्षणिक सत्र (प्रथम सत्र) (First Session)	सोमवार, दि. ८ जून, २०२० Monday, 8 June, 2020	शनिवार, दि. ३१ ऑक्टोबर, २०२० Saturday, 31 October, 2020	११७ 117
२.	प्रवेश प्रक्रिया * (Admission Process)	सोमवार, दि. ८ जून, २०२० Monday, 8 June, 2020	मंगळवार, दि. १६ जून, २०२० Tuesday, 16 June, 2020	०८ 08
३.	शैक्षणिक दिवस (प्रथम सत्र) Teaching Days (First Session)	बुधवार, दि. १७ जून, २०२० Wednesday, 17 June, 2020	गुरुवार, दि. २२ ऑक्टोबर, २०२० Thursday, 22 October, 2020	१०२ 102
४.	अभिक्रम प्रक्रिया (प्रथम वर्ष प्रवेशित विद्यार्थ्यांकरिता) Induction Programme (For 1st Year Students)	बुधवार, दि. १७ जून, २०२० Wednesday, 17 June, 2020	१ आठवडा (व्यावसायिक अभ्यासक्रमाचे विद्यार्थी वगळून) व ३ आठवडे (व्यावसायिक अभ्यासक्रमांच्या विद्यार्थ्यांकरिता) 1 Week (Except Professional Courses Students) and 3 Weeks for Professional Courses Students.	०६ १८ 06 18
५.	हिवाळी परीक्षांची तयारी (Preparation of Winter Examination/College Examination)	शुक्रवार, दि. २३ ऑक्टोबर, २०२० Friday, 23 October, 2020	शनिवार, दि. ३१ ऑक्टोबर, २०२० Saturday, 31 October, 2020	०७ 07
६.	प्रथम सत्र अवकाश (First Term Vacation)	सोमवार, दि. २ नोव्हेंबर, २०२० Monday, 2 November, 2020	गुरुवार, दि. १९ नोव्हेंबर, २०२० Thursday, 19 November, 2020	१८ 18
७.	शैक्षणिक सत्र (द्वितीय सत्र) (Second Session)	शुक्रवार, दि. २० नोव्हेंबर, २०२० Friday, 20 November, 2020	सोमवार, दि. १९ एप्रिल, २०२५ Monday, 19 April, 2021	१२० 120
८.	अशैक्षणिक** दिवस (नॅकची तयारी, कर्मचारी विकास कार्यक्रम, अंतर्गत गुणवत्ता हमी	शुक्रवार, दि. २० नोव्हेंबर, २०२० Friday, 20 November, 2020	शनिवार, दि. ५ डिसेंबर, २०२० Saturday, 5 December, 2020	१३ 13

	कक्ष सभा, अंतर्गत गुणवत्ता हमी अहवाल सादरीकरण व इतर गुणवत्ता वाढी संबंधित उपक्रम, शैक्षणिक अंकेक्षण, इत्यादी.) Non Instructional Days (NAAC Preparation, Faculty Development Programmes, IQAC Meetings, IQAR Submission, Post Accreditation Activities for Quality Enhancement, Academic Audit, etc.)			
९.	शैक्षणिक दिवस (द्वितीय सत्र) Teaching Days (Second Session)	सोमवार, दि. ७ डिसेंबर, २०२० Monday, 7 December, 2020	शनिवार, दि. १६ जानेवारी, २०२१ Saturday, 16 January, 2021	३५ 35
		गुरुवार, दि. २८ जानेवारी, २०२१ Thursday, 28 January, 2021	मंगळवार, दि. ६ एप्रिल, २०२१ Tuesday, 6 April, 2021	५५ 55
१०.	विद्यार्थ्यांचे गैरशैक्षणिक उपक्रम. (Extra Curricular Activities of students)	सोमवार, दि. १८ जानेवारी, २०२१ Monday, 18 January, 2021	बुधवार, दि. २७ जानेवारी, २०२१ Wednesday, 27 January, 2021	०८ 08
११.	उन्हाळी परीक्षांची तयारी (Preparation for Summer Examination/College Examinations)	बुधवार, दि. ७ एप्रिल, २०२१ Wednesday, 7 April, 2021	सोमवार, दि. १९ एप्रिल, २०२१ Monday, 19 April, 2021	०९ 09
१२.	द्वितीय सत्र अवकाश (Second Term Vacation)	मंगळवार, दि. २० एप्रिल, २०२१ Tuesday, 20 April, 2021	सोमवार, दि. ३१ मे, २०२१ Monday, 31 May, 2021	४२ 42

* प्रथम सत्र प्रारंभ होण्यापूर्वी अवकाश कालावधीत प्रवेश प्रक्रिया सुरू करण्यात यावी.
(Admission Process may be started prior to commencement of First Session in vacations.)

** विद्यापीठाने Faculty Development Programme, Orientation/Refresher Courses इत्यादी शक्यतो या कालावधीत आयोजित करावेत.
(As far as possible the University should organize Faculty Development Programme, Orientation/Refresher Courses etc. during this period.)

विद्यापीठाच्या परीक्षा व दीक्षांत समारंभ
University Examinations and Convocation

अ. विद्यापीठाने खालील कालावधीतच नियमित परीक्षांचे आयोजन करावे.
A.The University Shall conduct regular examinations strictily adhering to following schedule.

अ. क्र. (S.N)	कृती/कार्यक्रम (Activity)	प्रारंभ (Commencement)	समाप्ती (Cessation)	एकूण दिवस (Total Days)
1.	हिवाळी परीक्षा Winter Examinations	सोमवार, दि. ९ नोव्हेंबर, २०२० Monday, 9 November, 2020	गुरुवार, दि. १० डिसेंबर, २०२० Thursday, 10 December, 2020	२८ 28
2.	उन्हाळी परीक्षा Summer Examinations	मंगळवार, दि. २० एप्रिल, २०२१ Tuesday, 20 April, 2021	सोमवार, दि. १७ मे, २०२१ Monday, 17 May, 2021	२२ 22

विशेष सूचना: (Special Note):

ब. विद्यापीठाचा दीक्षांत समारंभ रविवार, दि. २० डिसेंबर, २०२० रोजी आयोजित करण्यात येईल.
B.University Convocation will be organized on Sunday, 20th December, 2020.

तक्ता -२
(Table – 2)

अ. क्र. (Sr.No.)	सण/सुट्या (Festivals/Holidays)	दिवस व दिनांक (Day & Date)
१.	बकरी ईद (ईद-उल-झुआ) Bakri Id (Id-Ul-Zuha)	शनिवार, दि. १ ऑगस्ट, २०२० Saturday, 1 August, 2020
२.	रक्षाबंधन Rakshabandhan	सोमवार, दि. ३ ऑगस्ट, २०२० Monday, 3 August, 2020
३.	स्वातंत्र्य दिन Independence Day	शनिवार, दि. १५ ऑगस्ट, २०२० Saturday, 15 August, 2020
४.	गणेश चतुर्थी Ganesh Chaturthi	शनिवार, दि. २२ ऑगस्ट, २०२० Saturday, 22 August, 2020
५.	गौरीपूजन Gouri Poojan	बुधवार, दि. २६ ऑगस्ट, २०२० Wednesday, 26 August, 2020
६.	अनंत चतुर्दशी Anant Chaturdashi	मंगळवार, दि. १ सप्टेंबर, २०२० Tuesday, 1 September, 2020
७.	सर्वपित्री अमावास्या Sarvapitri Amawasyya	गुरूवार, दि. १७ सप्टेंबर, २०२० Thursday, 17 September, 2020
८.	महात्मा गांधी जयंती Mahatma Gandhi Jayanti	शुक्रवार, दि. २ ऑक्टोबर, २०२० Friday, 2 October, 2020
९.	ईद-ए-मिलाद Id-E-Milad	शुक्रवार, दि. ३० ऑक्टोबर, २०२० Friday, 30 October, 2020
१०.	गुरूनानक जयंती Gurunank Jayanti	सोमवार, दि. ३० नोव्हेंबर, २०२० Monday, 30 November, 2020
११.	ख्रिसमस Christmas	शुक्रवार, दि. २५ डिसेंबर, २०२० Friday, 25 December, 2020
१२.	प्रजासत्ताक दिन Republic Day	मंगळवार, दि. २६ जानेवारी, २०२१ Tuesday, 26 January, 2021
१३.	छत्रपती शिवाजी महाराज जयंती Chhatrapati Shivaji Maharaj Jayanti	शुक्रवार, दि. १९ फेब्रुवारी, २०२१ Friday, 19 February, 2021
१४.	महाशिवरात्री Mahashivratri	गुरूवार, दि. ११ मार्च, २०२१ Thursday, 11 March, 2021
१५	होळी (दुसरा दिवस) Holi (Second Day)	सोमवार, दि. २९ मार्च, २०२१ Monday, 29 March, 2021
१६.	गुड फ्रायडे Good Friday	शुक्रवार, दि. २ एप्रिल, २०२१ Friday, 2 April, 2021
१७.	गुढीपाडवा Gudhi Padwa	मंगळवार, दि. १३ एप्रिल, २०२१ Tuesday, 13 April, 2021
१८.	डॉ.बाबासाहेब आंबेडकर जयंती Dr.Babasaheb Ambedkar Jayanti	बुधवार, दि. १४ एप्रिल, २०२१ Wednesday, 14 April, 2021

खालील सुट्या रविवारी येत आहेत.

१.	पारशी नववर्ष दिन (शहेनशाही)	- १६ ऑगस्ट, २०२०
२.	मोहरम	- ३० ऑगस्ट, २०२०
३.	दसरा	- २५ ऑक्टोबर, २०२०
४.	महावीर जयंती	- २५ एप्रिल, २०२१

Following Holidays fall on Sunday.

1.	Parsi New Year (Shahenshahi)	- 16 August, 2020
2.	Moharum	- 30 August, 2020
3.	Dasara	- 25 October, 2020
4.	Mahavir Jayanti	- 25 April, 2021

(१) ही शैक्षणिक नियामिका विद्यापीठाचे शैक्षणिक विभाग/ घटक महाविद्यालये/ संलग्नित महाविद्यालये (व्यावसायिक महाविद्यालयांसहीत) यांना लागू राहील.
(This Academic Calendar shall be applicable to all University Teaching Departments/ University Constituent Colleges/Affiliated Colleges (including Professional Colleges) of Sant Gadge Baba Amravati University.)

(२) शैक्षणिक वर्ष २०२०-२०२१ या कालावधीत करण्यात आलेल्या एकूण अध्यापन दिवसांसंबंधीची माहिती विद्यापीठाच्या शैक्षणिक विभाग प्रमुखांनी/घटक महाविद्यालयांच्या प्राचार्यांनी / संलग्नित महाविद्यालयांच्या प्राचार्यांनी शैक्षणिक वर्षाच्या अखेरीस विद्यापीठास कळवावी.
(At the end of Academic Session the Heads of the Teaching Departments of the University / Principals of Constituent Colleges / Affiliated Colleges shall communicate to the University the actual teaching days conducted during the Academic Session 2020-2021).

(३) विद्यापीठाच्या शैक्षणिक विभागांतील / घटक महाविद्यालयातील/ संलग्नित महाविद्यालयांतील शिक्षक व शैक्षणिक कर्मचाऱ्यांना तक्ता-२ मध्ये दर्शविण्यात आलेल्या सुट्यांव्यतिरिक्त राज्य शासनाने जाहीर केलेल्या इतर सुट्या अथवा जिल्हाधिकाऱ्यांनी जाहीर केलेल्या सुट्या उपभोगता येणार नाहीत. तथापि, यासंदर्भात अनुषंगिक निर्णय घेण्याचे अधिकार मा. कुलगुरू यांना राहतील.
(The Teaching Departments of the University/ University Constituent Colleges/ Affiliated Colleges of the University shall have holidays as per Table-2 and shall not avail the holidays declared by the State Government or the District Collector. However, the Hon'ble Vice-Chancellor shall have the power to take decision in this regard.)

(४) परीक्षा कालावधी कमी करण्यात यावा, ज्यामुळे मूल्यांकनाला पुरेसा वेळ देता येईल व निकाल वेळेवर जाहीर करता येतील, तथा प्रवेश प्रक्रियेला गती देवून प्रवेश वेळेत पूर्ण करता येतील. जेणेकरुन विद्यार्थी महाविद्यालय/ विद्यापीठ परिसरात शैक्षणिक कार्यासाठी नियोजित कार्यक्रमानुसार उपस्थित राहू शकेल. याकरीता परीक्षा विभागाने परीक्षेकरिता निर्धारीत केलेल्या कालावधीचे कटाक्षाने पालन करावे.
(Span of Examination be curtailed to have enough time for evaluation and the publication of results in time so that the admission process could be speed up and completed in time, to have students' presence in the campus for teaching as per schedule. For this, the time span allotted for examinations shall be strictly followed by Examination Section.)

(५) व्यावसायिक अभ्यासक्रमांच्या प्रथम सत्राचे प्रवेश संबंधित प्राधिकारणाद्वारे निश्चित होत असल्यामुळे प्रवेश प्रक्रियेचा कालावधी काही आठवड्यांनी लांबतो. त्यामुळे प्रत्यक्ष शैक्षणिक कार्य विलंबाने सुरू होते. हे लक्षात घेता, ९० शैक्षणिक दिवस पूर्ण होईपर्यंत प्रथम सत्र सुरू ठेवावे. करिता महाविद्यालय तथा विद्यापीठाचे परीक्षा व मूल्यांकन विभाग अवकाश व परीक्षेचा कालावधी यामध्ये समायोजन घडवून आणतील. तसेच या संदर्भातील बदल महाविद्यालये विद्यापीठाला कळवतील.
(The admissions of the First Semester of Professional Courses are governed by their respective authorities for completion of admission process, results in late commencement of actual teaching. Hence, it is recommended to extend Ist Session to observe at least 90 teaching days. Vacation and Examination shall be adjusted by the Colleges, Examination & Evaluation Section of the University. Accordingly, the change should be brought to the notice of the University.)

(६) ही शैक्षणिक नियामिका विचारात घेवून प्रत्येक महाविद्यालयाने तपशिलवार शैक्षणिक नियामिका तयार करून ती महाविद्यालय विकास समितीकडून मान्य करून महाविद्यालयाचे माहितीपत्रक आणि वेबसाईट इत्यादीच्या माध्यमातून विद्यार्थ्यांच्या निदर्शनास आणणे अनिवार्य आहे.
(It is manadatory for all the colleges to prepare their Academic Calendar as per University Academic Calendar and after approval of the College Development Committee, the College Academic Calendar be published in the College Prospectus and upload on the Website.)

(७) **अभिक्रम प्रक्रिया :** शिखर संस्थांच्या (ए.आय.सी.टी.ई., यु.जी.सी. इत्यादी) मार्गदर्शक तत्त्वांनुसार विद्यापीठाच्या शैक्षणिक विभागाद्वारे/ घटक महाविद्यालयाद्वारे/ संलग्नित महाविद्यालयांद्वारे अभिक्रम प्रक्रिया अंतर्गत विविध उपक्रम राबविण्यात यावेत.
Induction Programme: Activities shall be performed as per guidelines of the apex bodies (A.I.C.T.E., U.G.C. etc.) by the University teaching departments/ constitutent / affiliated colleges.

स्वा/-

(डॉ.टी.आर.देशमुख)
कुलसचिव,
संत गाडगे बाबा अमरावती विद्यापीठ

*****

P. R. Pote Patil College of Engineering & Management, Amravati

PROPOSED ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

ODD SEMESTER

July 2020

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 2020

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2020

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Activity	Date/Duration
Display of Time Table	17-July-2020.
Commencements of Classes	20-July-2020.
Discussion about scheme of exam and syllabus	25-July-2020.
Forum Formation (Department Level)	7,8 August-2020.
Library Books issue	10-August-2020.
Feedback I (Department Level)	28,29 Aug. 2020
Final Year Seminar	07 to 10 Sept. 2020
Unit Test 1	14, 15, 16 Sept. 2020
Declaration of UT 1 Result	18 Sept. 2020
Class Test/ Assignments/Viva/Re-test	21, 22 Sept. 2020
Project Review	3-5 Oct. 2020
Display of Provisional detention list	06 Oct. 2020
Parents Meet	10 Oct. 2020
Unit Test 2	29,30.31 Oct 2020
Display of detention list	31 Oct. 2020
Declaration of UT 2 Result	02 Nov. 2020
Final Feedback	29,30.31 Oct 2020
Practical Submission	3,4,5,6 Nov. 2020
Guidance Regarding Exam	07 Nov. 2020
Last day of Teaching	Not Finalised
University Exam	Not Finalised

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote Patil College of Engineering & Management, Amravati

PROPOSED ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

EVEN SEMESTER

December 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April 2021

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Activity	Date/Duration
Display of Time Table	12 Dec. 2020
Commencements of Classes (Higher)	14 Dec. 2020
Discussion about scheme of exam and syllabus	27 Dec. 2020
Commencements of Classes (First Year)	15 Jan. 2021
Library Books issue	1 Jan. 2021
Project Review II	4-5 Jan. 2021
Unit Test 1	15,16,17 Feb. 2021
Declaration of UT 1 Result	20 Feb. 2021
Class Test/ Assignments/Viva/Re-test	22 to 26 Feb. 2021
Feedback I	2,3 March 2021
Display of Provisional detention list	04 March.2021
Project progress Submission	15,16 March 21
Unit Test 2	1, 2,3 April 2021
Declaration of UT 2 Result	05 Apr. 2021
Class Test/ Assignments/Viva/Re-test	6 to 9 April 2021
Feedback 2	1, 2,3 April 2021
Display of detention list	10 Apr. 2021
Project Completion	12 Apr. 2021
Practical Submission	12 to 15 April 2021
Last day of Teaching	Not Finalized
University Exam	Not Finalized

Above mentioned dates are subject to change due to unavoidable circumstances (COVID 19)

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P.R.POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES & WELFAREE TRUSTS

P.R.POTE(PATIL) COLLEGE OF ENGINEERING &MANAGEMENT, AMRAVATI

(An Accreditated Institution affiliated to SantGadge Baba Amravati University)

(Accredited 'A' Grade by NAAC)

Department Of First Year Engineering

Academic Calendar for Odd Semester in Academic Session 2020-21

Date of Release: 28January 2021

Undergraduate Program (I&II SemBE)

Activity	Dates
Course registrations Important Notifications (I&II Sem BE)	09-Jun.21
Last Date for Course registrations (I&II Sem BE.)	10- Jun.21
Display Of Time Table	10- Jun.21
Commencement of Classes (F.Y.)	10- Jun.21
Discussion about Scheme & Syllabus of Examination.	10- Jun.21
Student's Assignment Work	10-Jul 21
Unit Test (I)	17 Jul &19 Jul
Display of Marks/Results of Unit Test (I)	22-Jul 21
Parents Teacher Meeting	24-Jul 21
Students with low attendance/ poor performance to meet HoD/FYC	31-Jul 21
Feedback (I) Mid term feedback (Students)	07-Aug 21
Display of Provisional Detention List	10-Aug 21
Unit Test (II)	21-Aug & 23 Aug
Display of Marks/Results of Unit Test (II)	26-Aug 21
Parents Teacher Meeting regarding Test (II) results & Poor Attendance	28-Aug 21
Students with low attendance/ poor performance to meet HoD / FYC	31-Aug 1
Teacher's Day Celebrations.	04 Sept.& 05-Sept. 21
Engineer's Day Celebrations.	15-Sept 21
Practical (Internal) Submission	18-Sept. 21
Display Of Final Detention List	18-Sept. 21
Feedback (II) Endsem feedback (Students)	20-Sept. 21
Last Day of session.	27-Sept. 21
University Examination	Inform Later
Results	Inform Later
College Re-opens for Next Odd sem Term 2021-22	Inform Later

Time Table In charge — Prof.G.B.Malviya

HOD (F.Y.ENGINEERING)

PRINCIPAL PRPCEM

Copy to

Deputy Director, PRPCEM

Principal, PRPCEM

Dean, Academics

P.R.POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES & WELFAREE TRUSTS

P. R. POTE (PATIL) COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI.

(An Accreditated Institution affiliated to Sant Gadge Baba Amravati University)

(Accredited 'A' Grade by NAAC)

Kathora Road,Amravati,444602

Department Of First Year Engineering

Academic Calendar for Odd Semester in Academic Session 2020-21

Date of Release: 28 January 2021

Undergraduate Program (I&II Sem BE)

Activity	Dates
Course registrations (I&II Sem BE)	20-24 Jan.21
Last Date for Course registrations (I&II Sem BE.)	25 Jan.21
Display Of Time Table	25 Jan. 21
Commencement of Classes (Higher)	28 Jan 21
Commencement of Classes (F.Y.)	28 Jan. 21
Discussion about Scheme & Syllabus of Examination.	28 Jan. 21
Induction Program	6 Feb 21
Student's Assignment Work	20 Feb 21
Science Day Celebrations	28/2/21
Unit Test (I)	6 Mar & 8 Mar 21
Display of Marks/Results of Unit Test (I)	12 Mar 21
Parents Teacher Meeting	20 Mar 21
Students with low attendance/ poor performance to meet HoD/FYC	20 Mar 21
Feedback (I) Mid term feedback (Students)	27 Mar 21
Display of Provisional Detention List	29 Mar 21
Unit Test (II)	10 Apr & 12 Apr. 21
Display of Marks/Results of Unit Test (II)	15 Apr 21
Parents Teacher Meeting regarding Test (II) results & Poor Attendance	24 Apr 21
Students with low attendance/ poor performance to meet HoD / FYC	24 Apr 21
Practical (Internal) Submission	26 Apr 21
Display Of Final Detention List	27 Apr 21
Feedback (II) End sem feedback (Students)	30 Apr 21
Last Day of session.	30 Apr 21
University Examination	Inform Later
Results	Inform Later
College Re-opens for Even Term 2020-21	Inform Later

Time Table In-charge — **Prof. G.B .Malviya**

HOD — **(F.Y.ENGINEERING)**

PRINCIPAL — **PRPCEM**

Copy to

Deputy Director, PRPCEM

Principal, PRPCEM

Dean, Academics

P. R. Pote Patil College of Engineering & Management, Amravati

Department of Electronics & Telecommunication Engg.

ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

EVEN SEMESTER

December 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2021

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March 2021

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April 2021

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Activity	Date/Duration
Display of Time Table	23 Dec. 2020
Commencements of Classes (Higher)	26 Dec. 2020
Commencements of Classes (First yr.)	15 Jan. 2021
Discussion about scheme of exam and syllabus	27 Dec. 2020
Library Books issue	1 Jan. 2021
Project Review II	6 Jan. 2021
Unit Test 1	17, 18 & 20 Feb. 2021
Declaration of UT 1 Result	24 Feb. 2021
Class Test/ Assignments/Viva/Re-test	25 to 29 Feb. 2021
Feedback I	2, 3 March 2021
Display of Provisional detaintion list	05-Mar-21
Project progress Submission	14-Mar-21
Unit Test 2	1, 3, 4 April 2021
Declaration of UT 2 Result	07-Apr-21
Class Test/ Assignments/Viva/Re-test	8 to 11 April 2021
Feedback 2	8, 9 April 2021
Practical Submission	8 to 11 April 2021
Project Completion	10-Apr-21
Display of detention list	13-Apr-21
Last day of Teaching	13-Apr-21
University Exam	20-Apr-21

Above mentioned dates are subject to change due to unavoidable circumstances.

I/c Academics

HOD

P. R. Pote Patil College of Engineering & Management, Amravati

Department of Electronics & Telecommunication Engg.

ACADEMIC CALENDER (B. E.)

Academic Year 2020-21

ODD SEMESTER

July 2020						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 2020						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 2020						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2020						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Activity	Date/Duration
Display of Time Table	17-Jul-20
Commencements of Classes	20-Jul-20
Discussion about scheme of exam and syllabus	20-Jul-20
Library Books issue	1 Aug. 2020.
Unit Test 1	13, 14, 16 Aug. 2020
Declaration of UT 1 Result	22 August 2020.
Class Test/ Assignments/Viva/Re-test	23 to 31 Aug. 2020
Feedback I	30, 31 Aug. 2020
Final Year Seminar	09 to 14 Sept. 2020
Project Review I	03 - 04 Oct. 2020
Display of Provisional detaintion list	01 Oct. 2020
Unit Test 2	14, 15, 16 Oct. 2020
Declaration of UT 2 Result	19 Oct. 2020
Class Test/ Assignments/Viva/Re-test	21, 22 Oct. 2020
Feedback 2	21, 22 Oct. 2020
Practical Submission	17 to 22 Oct. 2020
Display of detention list	23 Oct. 2020
Last day of Teaching	23 Oct. 2020
University Exam	31 Oct. 2020

Above mentioned dates are subject to change due to unavoidable circumstances.

I/C Academics

HOD

P. R. Pote Patil Edu. & Welf. Trust, Group of Insti., College of Engineering & Management, Amravati

ACADEMIC PLANNER | **Year: 2020-21** | **SEMESTER: III,V,VII**

	DAY	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
August	ACTIVITIES													Session Starts		Independence Day							Ganesh Jayanti										No. of working days = 13
	DAY	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
September	ACTIVITIES														UNIT TEST 1	UNIT TEST 1	UNIT TEST 1	Sarvpitri Amavsya															No. of working days = 22
	DAY	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	ACTIVITIES		Shashtri Jayanti																														No. of working days = 27
	DAY	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Say	Sun	Mon		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
November	ACTIVITIES									UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	Diwali																	Guru Nanak Jayanti			No. of working days = 19
	DAY	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue				Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	Fri	Sat	Sun	Mon	Tue	We	Thu	
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
December	ACTIVITIES												Session End			Internal Practical Submission																No. of working days = 14

In teaching learning process, Sundays may be accounted.

Total number of Working Days = 92

Dr.A.S.Tetang
Academic Incharge

Prof.D.A.Shahakar
H.O.D. (Elect. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote Patil Edu. & Welf. Trust, Group of Insti., College of Engineering & Management, Amravati

ACADEMIC PLANNER | Year: 2020-21 | SEMESTER: IV,VI,VIII

	DAY		Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Say	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	Dt.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	No. of working days = 5
Jan	ACTIVITIES																											Republic Day	SESSION BEGINS					
	DAY	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun					
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28					No. of working days = 24
Feb	ACTIVITIES																			Shiv Jayanti	EESA Activity			UNIT TEST 1		UNIT TEST 1								
	DAY	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		No. of working days = 26
March	ACTIVITIES											Mahashivratri																		Dhulivandan					
	DAY	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri			
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			No. of working days = 26
April	ACTIVITIES		Goodfriday			Ramnavami							Gudipadwa	Dr.B.R. Ambedkar Jayanti	UNIT TEST 1	UNIT TEST 1	UNIT TEST 1		UNIT TEST 1	UNIT TEST 1	Ramvavami	UNIT TEST 1													
	DAY	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon		
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		No. of working days = 22
May	ACTIVITIES	Maharashtra Day												Akshiya Trutiya and Id												UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	UNIT TEST 2	UNIT TEST 2		STTP		
	DAY	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Mon	Tue	Wed	Thu	Fri	Sat		Mon	Tue	Wed			
	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		21	22	23	24	25	26		28	29	30			No. of working days = 19
June	ACTIVITIES														Term End	Internal Practical Submissions, Assignments, Project report submissions																		

In teaching learning process, Sundays may be accounted.

Total number of Working Days = 109

Prof. A. S. Telang
Academic Incharge

Prof.D.A.Shahakar
HOD
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg.& Management
Amravati.

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engg. & Management, Amravati

DEPARTMENT OF FIRST YEAR ENGINEERING

Course Plan

1) Course overview:-

Course Title:	Engg. Mathematics-II			Name of Faculty	J. S. Wath
Course Code:	1B1	Course Abbreviation:	M-II	Theory (Hrs/week)	4+1 hrs/week
Class:	First Year Section-F			Academic Year	2020-2021

2) Teaching & Examination Scheme:-

Teaching Scheme (Hrs)			Examination Scheme (Marks)								
				Theory							
Theory	Tutorial	Practical	Paper Hr.	Ext	Int.	Total	Credits	External Assessment	Internal Assessment	TOTAL	Credits
04	01	-	3 hrs	80	20	100	4				

University Subject Syllabus:-

Unit No.	Details Content	Hrs
1	**Matrices :** Inverse by Partitioning, Rank of a matrix, Rank-nullity theorem without proof), System of linear equations; Eigen values and Eigen Vectors, Cayley-Hamilton Theorem .	10
2	**Fourier series:** Periodic function, Fourier expansion of periodic function in (C, C+2L), half	10

	range Fourier series, Parseval's Theorem, Harmonic Analysis.	
3	**Integral Calculus :** Reduction formulae, Beta and Gamma function, Evolutes and involutes.	10
4	• Rule of differentiation under integral sign. • Tracing of curves (Cartesian, Parametric and polar forms) • Rectification (Cartesian, Parametric and polar forms).	10
5	**Multivariable Integral Calculus I:** Double Integrals, Cartesian, Change of Order of Integration, Change of Variables (Cartesian to polar coordinates), Evaluation of area by Double Integration.. (8)	10
6	**Multivariable Integral Calculus II:** Triple integrals, Cartesian, transformation to spherical polar coordinates, Volume by Triple Integration, Mean and RMS Value Theorem.	10

Text Books:

1. Wartikar P.N . , Wartikar J.N – A text of applied Mathematics, Volume I, II Pune V.G. Prakashan, Pune.
2. Grewal B. S. – Higher Engineering Mathematics, (latest Edition), Khanna Publishers .

References:

1. Kreyszig E.K. – Advanced engineering Mathematics, John Wiley.
2. Ramana B. V. - Higher Engineering Mathematics, (TMH).
3. Singh R.R. And Bhatt M. - Higher Engineering Mathematics, (TMH).
4. N.P.Bali and Manish Goyal – A text book of Engineering Mathematics, Laxmi Publications.
5. Veerarajan T. - Engineering mathematics for first year, (TMH).

Course Prerequisites:-

1. (12th) Matrices, derivative, integration, trigonometry.

Course Objectives:-

1. To find solution of simultaneous equations by matrix method.
2. To familiarize the prospective engineers with techniques in integral calculus.
3. To understand the expansion of Fourier series.
4. To understand double and triple integration and enable them to handle integrals of higher orders.
5. To deal with functions of several variables that is essential in most branches of engineering.

Course Outcomes:-

After learning the course, the students should be able to

SN	Outcomes
CO1	The essential tool of matrices and linear Algebra in a comprehensive Manner.
CO2	Evaluation of Integrals by Reduction Formulae, Gamma and Beta Function
CO3	Use the tool of Fourier series for learning advanced engineering mathematics.
CO4	Use new techniques DUIS to evaluate Integrals and Tracing of Curves
CO5	The Mathematical tools needed in evaluating Multiple Integrals and their usage.

Bloom's Level: - (Optional)

SN	COs	Bloom's Level	Delivery Method
1	CO1		
2	CO2		
3	CO3		
4	CO4		

CO-PO-PSO Mapping:-

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	3	2	1											
CO2	3	2	1											
CO3	3	2	1											
CO4	3	2	1											
CO5	3	2	1											

CO-PO Mapping & Justification:-

Mapping	Level	Justification
		Students will able to
CO1-PO1	3	The significant application of the matrices the concepts of inverse of a matrix rank of a matrix, eigen values, eigen vectors & rank nullity theorem are is widely used.
CO1-PO2	2	The methods of finding inverse, determining the rank of a matrix & finding the eigen values, eigen vectors, implications of rank nullity theorem formulated.
CO1-PO3	1	Students will be able to analyze the given system of equations to test the consistency & hence solving the same with the help of concept of rank. Students will also be able to analyze the eigen value problem & rank nullity theorem.
CO2-PO1	3	The significant application of the expansions of functions, dirichlet conditions, trigonometric series & fourier widely used.
CO2-PO2	2	The formulation of the fourier series of various types of periodic functions derived.
CO2-PO3	1	Analysis of various types of periodic functions by expanding them in fourier sense. Also numerical anlysis of any periodic data by the Fourier series.
CO3-PO1	3	The significant applications of methods of integration such as reduction formulae, beta integrals, gamma integrals & geometrical concepts of evolute, involute is widely applied.
CO3-PO2	2	Formulations of various types of definite integrals were developed here formulations of equations of evolute, involutes.
CO3-PO3	1	In analysing various plane curves such definite integrals often exists. Hence evaluating different types of integrals, determination of evolute, involutes to a given curve.

CO4-PO1	3	The significant application of the concepts of leibnitz's rules of differentiation under integral sign, tracing of curves & rectification of plane curves.
CO4-PO2	2	Formulations of duis rules & rectification derived. Techniques of tracing of plane curves developed here.
CO4-PO3	1	Analyzing complicated definite integrals using duis rules, analyzing the shapes of plane curves & hence rectifying them.
CO5-PO1	3	The significant application of double integration, changing the order of difficult integration widely applied.
CO5-PO2	2	The single integration is generalized to formulate the double integration, methods of transforming to polar devised.
CO5-PO3	1	Analysis of various types of the surface regions & voluminous regions & hence evaluating the areas & volumes of surfaces & solids.
CO6-PO1	3	The significant application of triple integration, changing to spherical polar form, widely applied.
CO6-PO2	2	The double integration is generalized to formulate the triple integration, methods of transforming to spherical polar devised.
CO6-PO3	1	Analysis of various types of the surface regions & voluminous regions & hence evaluating the areas & volumes of surfaces & solids. Evaluating mean values & root mean square values.

CO Assessment Tools:

Direct Method Tools	**1**
Unit Test-1 (Theory)	0.2
Unit Test-2 (Theory)	0.2
Assignment (Theory)	0.2
Average of UT1 + UT2+ Assignment (Theory)	**0.2**
End Sem Examination (University)	**0.8**
Laboratory Evaluation (lab)	
Internal Exam (lab)	
External Practical Examination (lab)	
Indirect Method Tools	**1**

Course Exit Survey	0.2

Course Outcomes Target:-

Course	Target	Attainment	Target	Attainment	Target	Attainment
	Session-2020-21		Session-2019-20		Session-2018-19	
Theory						
Practical	-	-	-	-	-	-

Rubrics for the Assignments:

Indicator	Average	Good	Excellent	Marks
Organization (5)	Readable with some mistakes and structured (1)	Readable with some mistakes and structured (3)	Very well written and structured without any mistakes(5)	
Level of content (10)	All major topics are covered, the information is accurate (3)	Most major and some minor criteria are included. Information is accurate (5)	All major and minor criteria are covered and are accurate (10)	
Depth and breadth of discussion and representation (15)	Minor points/information maybe missing and representation is minimal (5)	Discussion focused on some of the points and covers them adequately (10)	Information is presented in depth and is accurate (15)	
Total (30)				

Lecture/Lesson Plan:

Modes of Content Delivery:-

I	Class Room/Lab Teaching	V	Self-Learning Online Resources	IX	Industry Visit
II	Tutorial	VI	Slides/Self Videos	X	Group Discussion
III	Remedial Coaching	VII	Simulations/ Demonstrations	XI	Seminar
IV	Lab Experiment	VIII	Expert Lecture	XII	Case Study

Lecture No.	Portion to be covered	Planned date	Actual date	Content Delivery Method/Learning Activities	Reference material
Unit-I :- Matrices					
1	Introduction of Subject & Syllabus	04/02/2021	04/02/2021	VI	Reference Book
2	Partitioning Method	06/02/2021	06/02/2021	VI	Reference Book
3	Examples on Partitioning Method	08/02/2021	08/02/2021	VI	Reference Book
4	Examples on Partitioning Method	09/02/2021	09/02/2021	VI	Reference Book
5	Examples on Partitioning Method	11/02/2021	11/02/2021	VI	Reference Book
6	Rank-Nullity theorem & Examples	13/02/2021	13/02/2021	VI	Reference Book
7	Solution of Simultaneous equation	15/02/2021	15/02/2021	VI	Reference Book
8	Examples on Solution of Simultaneous equation	16/02/2021	16/02/2021	VI	Reference Book
9	Examples on Solution of Simultaneous equation	17/02/2021	18/02/2021	VI	Reference Book
10	Cayley-Hamilton Theorem	18/02/2021	18/02/2021	VI	Reference Book
11	Examples on Cayley-Hamilton Theorem	20/02/2021	20/02/2021	VI	Reference Book
12	Eigen Values & Eigen Vectors	27/02/2021	27/02/2021	VI	Reference Book
13	Examples on Eigen Values & Eigen Vectors	01/03/2021	28/02/2021	VI	Reference Book

14	Examples on Eigen Values & Eigen Vectors	02/03/2021	01/03/2021	VI	Reference Book
Unit-II:- Fourier Series					
15	Fourier Series (0,2L)	03/03/2021	02/03/2021	VI	Reference Book
16	Examples on Fourier Series (0,2L)	04/03/2021	03/03/2021	VI	Reference Book
17	Examples on Fourier Series (0,2L)	06/03/2021	04/03/2021	VI	Reference Book
18	Fourier Series (-L,L)	08/03/2021	06/03/2021	VI	Reference Book
19	Examples on Fourier Series (-L,L)	09/03/2021	07/03/2021	VI	Reference Book
20	Examples on Fourier Series (-L,L)	10/03/2021	08/03/2021	VI	
21	Class Test-1	11/03/2021	09/03/2021	VI	Reference Book
22	Examples on Fourier Series (-L,L)	13/03/2021	10/03/2021	VI	Reference Book
23	Examples on Fourier Series (-L,L)	15/03/2021	11/03/2021		
24	Half range Cosine Series	16/03/2021	13/03/2021	VI	Reference Book
25	Half range sine Series	17/03/2021	15/03/2021	VI	Reference Book
26	Harmonic Analysis	18/03/2021	16/03/2021	VI	Reference Book
27	Examples on Harmonic Analysis	23/03/2021	17/03/2021	VI	Reference Book
28	Class Test-2	24/03/2021	18/03/2021	VI	
Unit-III:- Reduction Formula, Beta & Gamma Function, Evolutes & Involutes					
29	Unit Test-1	25/03/2021	20/03/2021	VI	
30	Reduction Formula	27/03/2021	23/03/2021	VI	Reference Book
31	Examples on Reduction Formula	30/03/2021	24/03/2021	VI	Reference Book
32	Gamma Function	31/03/2021	25/03/2021	VI	Reference Book
33	Examples on Gamma Function	01/04/2021	27/03/2021	VI	Reference Book
34	Beta Function	03/04/2021	30/03/2021	VI	Reference Book
35	Examples on Beta Function	05/04/2021	31/03/2021	VI	Reference Book
36	Evolutes	06/04/2021	01/04/2021	VI	Reference Book

Unit-IV:- DUIS, Curve Tracing & Rectification					
37	DUIS- Rule-I	07/04/2021	02/04/2021	VI	Reference Book
38	DUIS- Rule-II	08/04/2021	03/04/2021	VI	Reference Book
39	Curve Tracing: Cartesian Form	10/04/2021	04/04/2021	VI	Reference Book
40	Curve Tracing: Cartesian Form	12/04/2021	05/04/2021	VI	Reference Book
41	Curve Tracing: Cartesian Form	13/04/2021	06/04/2021	VI	Reference Book
42	Curve Tracing: Polar Form	14/04/2021	07/04/2021	VI	Reference Book
43	Curve Tracing: Parametric Form	15/04/2021	08/04/2021	VI	Reference Book
44	Class Test-3		08/04/2021	VI	
45	Rectification	17/04/2021	09/04/2021	VI	Reference Book
46	Rectification	19/04/2021	11/04/2021	VI	Reference Book
Unit-V:- Double Integration					
47	Area in Cartesian Form	20/04/2021	12/04/2021	VI	Reference Book
48	Area in Cartesian Form	21/04/2021	13/04/2021	VI	Reference Book
49	Area in Polar Form	22/04/2021	14/04/2021	VI	Reference Book
50	Transformation to polar coordinates	24/04/2021	15/04/2021	VI	Reference Book
51	Class Test-4	24/04/2021	15/04/2021	VI	
52	Transformation to polar coordinates	26/04/2021	16/04/2021	VI	Reference Book
53	Unit Test-2		17/04/2021	VI	
54	Change of order of Integration	27/04/2021	20/04/2021	VI	Reference Book
Unit-VI:- Triple Integration					
55	Problems on Triple Integration	28/04/2021	21/04/2021	VI	Reference Book
56	Transformation to spherical polar coordinates	29/04/2021	23/04/2021	VI	Reference Book
57	Volume of solid by triple integration	01/05/2021	23/04/2021	VI	Reference Book

58	Volume of solid by triple integration	03/05/2021	24/04/2021	VI	Reference Book
59	Class Test-5	03/05/2021	25/04/2021	VI	
60	Mean Values	04/05/2021	26/04/2021	VI	Reference Book
61	RMS Values	05/05/2021	27/04/2021	VI	Reference Book
62	Class Test-6	06/05/2021	28/04/2021	VI	

Resources:-

Resource	Topic	Source	Type
Video 1	Curve Tracing Introduction	https://youtu.be/2thV1cS-V9Y	YouTube
Video 2	Double integral	https://youtu.be/85zGYB-34jQ	YouTube

TUTORIAL SHEET

Date: .....

This Tutorial corresponds to Unit No. / Lesson .....

Q.1: .....

Q.2:.....

Q.3:.....

Q.4:.....

Course Outcome Nos.: .....

Contents beyond Syllabus:

Sr.No	Curriculum Gap Contents	Action Taken
01	Basics of determinants & matrices	Cover in the lectures.
02	Beta & Gamma functions	https://youtu.be/3Co68ALYRTI

Prof. J. S. Wath

Name & Signature of Course Owner

Dr. A. D. Bhoyar

Name & Signature of HOD

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati

DEPARTMENT OF MCA

Course Plan

1) Course overview:

Course Title:	**Design and Analysis of Algorithms**			**Name of Faculty**	Prof.Rachana V.Mahule
Course Code:	MCA192 03	**Course Abbreviation:**	DAA	**Theory (Hrs/week)**	4 hrs / week
Class:	Second Year – Semester III			**Academic Year**	S2021

2) Teaching & Examination Scheme :

Teaching Scheme(Hrs)			Examination Scheme (Marks)								
				Theory							
Theory	Tutorial	Practical	Paper Hr.	Ext	Int.	Total	Credits	External Assessment	Internal Assessment	TOTAL	Credits
04	--	04	3hr	80	20	100	04	25	25	50	01

3) Course Content :

Unit No.	Title/Details	No. of Lectures required	Teaching Method/Media
Unit - I	**Iterative Algorithm Design Issue**: Introduction, Use of Loops,Efficiency of Algorithms, Estimating & Specifying Execution Times, Order Notations, Algorithm Strategies, Design using Recursion	**10**	**Board / Projector**
Unit – II	**Divide And Conquer:** Introduction, The gteeneral method, BinarySearch,Finding minimum and maximum, merge sort, quick sort, selection sort,Strassen's matrix multiplication.	**09**	**Board / Projector**
Unit - III	**Greedy Methods**: Introduction, Knapsack Problem, Job sequencing with deadlines, Minimum Spanning Trees, Prim's Agorithms, Kruskal's Algorithm, Dijkstra's Shortest Path Algorithm.	**09**	**Board / Projector**
Unit – IV	**DynamicProgramming**:Introduction,MultistageGraphs, Traveling Salesman, Matrix multiplication, Longest Common Sub-Sequences, Optimal Polygon Triangulation, Single Source Shortest Paths.	**10**	**Board / Projector**
Unit – V	**Backtracking**:Combinational Search,Search& Traversal, Backtracking Strategy, Backtracking Framework, Some typicalState Spaces	**9**	**Board / Projector**

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati

6) Prerequisites:

Students should have basic knowledge of Discrete Mathematics, which helps a lot in DAA. Needs problem-solving ability. Topics like Graph Theory in DM give a more detailed view of graphs which are quite extensively used in DS. Student should have a basic understanding of any programming language. Student will need to know the basics of programming including but not limited to

1. Loops.
2. inheritance(if supported by your language)
3. Polymorphism
4. Array, Lists
5. Memory Allocation and Pointers

Course Description:

Design and Analysis of Algorithm is very important for designing algorithm to solve different types of problems in the branch of computer science and information technology. This course introduces the fundamental concepts of Designing Strategies, Complexity analysis of Algorithms, followed by problems on Graph Theory and Sorting methods. It also includes the basic concepts on Complexity theory.

7) Unit Wise Plan

No. of Unit	Unit –I	No. of Lecture Required	10
1	**Iterative Algorithm Design Issue:**	Weightage	14

Contents:-

Sr. No.	Topics to be covered	No. of lectures required	Remark
01	General Introduction of the subject, syllabus, importance etc.	1	
02	**Iterative Algorithm Design Issue -Introduction**	1	

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati

Sr. No.	Topics to be covered	No. of lectures required	Remark
01	Introduction	1	
02	Knapsack Problem	1	
03	Job sequencing with deadlines.	2	
04	Minimum Spanning Trees	1	
05	Prim's Algorithms	2	
06	Kruskal's Algorithm	1	
07	Dijkstra's Shortest Path Algorithm.	1	

No. of Unit	Unit –IV	No. of Lecture Required	10
4	Dynamic Programming	Weightage	14

Contents:-

Sr. No.	Topics to be covered	No. of lectures required	Remark
01	Introduction	1	
02	Multistage Graphs	2	
03	Traveling Salesman	1	
04	Matrix multiplication	1	
05	Longest Common Sub-Sequences	2	
06	Optimal Polygon Triangulation	2	
07	Single Source Shortest Paths.	1	

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati

06	Time-Space Trade off	1	

(Name & Sign of HOD)

H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

(Name & Signature of Staff)
(R. V. Mahule)

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions College of Engineering & Management, Amravati

Scheme of examination: For Practical Examination, student has to perform one practical from the list of Practical's.(Selected by Practical name chits).

Prerequisites:
Programming languages, Data structures, Basics to build the program and Mathematics

Software Requirement: C or CPP Programming Compiler

(Name & Sign of HOD)

H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

(Name & Signature of Staff)
(R. V Mahule)

P. R. Pote (Patil) College of Engineering & Management, Amravati
Department of MBA
Lecture Observation Report & YouTube Link

Sr. No	Name of Faculty	Subject	Semester & Year	Date	YouTube Link	Name of Observer	Remark	No. of Students Present/Out of
1	Prof. S.R. Shah	MFS	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/nqz-ermv-roa	Prof. N. S. Kariya	Humming Noise	15/18
2	Prof. N. S. Kariya	IHRM	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/vcn-mthn-dmh	Prof. S. R. Shah	Nice Session	9/17
3	Prof. S. K. Singh	SM	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/qsx-mobf-xog	Prof P.W. Nimbhorkar	Nice PPTs	39/79
4	Prof. F. K. Thomas	HBWP	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/dvo-giqs-tgg	Prof. N. S. Kariya	Well Explained	8/16
5	Prof. S.D. Raut	SAPM	MBA SEM IV 2nd Year	28/04/2021	meet.google.com/knz-xcde-eyt	Prof. S. R. Shah	Humming Noise	15/18
6	Prof. P. B. Udasi	FDA	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/avb-jqwt-rtw	Prof. S. R. Shah	Practical Example Req.	14/18
7	Prof. N. S. Kariya	IME	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/aqj-rjrz-qzw	Prof. S. R. Shah	OK	24/39
8	Prof. V. A. Ingole	MNPO	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/qei-tyro-oau	Prof. S. R. Shah	Sound Not Clear	18/39
9	Prof. S. B. Kadu	SPM	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/hxa-aeap-tcj	Prof. S. R. Shah	OK	21/39
10	Prof. P. W. Nimbhorkar	MOGP	MBA SEM IV 2nd Year	28/04/2021	https://meet.google.com/cns-toor-pbt	Prof. N. S. Kariya	OK	8/16
11	Prof. S.R. Shah	PPM	MBA SEM I 1st Year	28/04/2021	https://meet.google.com/xfh-cejm-jvx	Prof. S. K. Singh	Nice PPTs	45/63

P. R. Pote (Patil) College of Engineering & Management, Amravati
Department of MBA
Lecture Observation Report & YouTube Link

Sr. No	Name of Faculty	Subject	Semester & Year	Date	YouTube Link	Name of Observer	Remark	No. of Students Present/Out of
1	Prof. S.R. Shah	PPM	MBA SEM I 1st Year	13/05/2021	https://youtu.be/Z_KfSHc1idg	Prof. N. S. Kariya	Nice Session	51/63
2	Prof. P. W. Nimbhorkar	BET	MBA SEM I 1st Year	13/05/2021	https://youtu.be/vKLqd2hYzfQ	Prof. S. R. Shah	OK	53/63
3	Prof. S. K. Singh	OBE	MBA SEM I 1st Year	13/05/2021	https://youtu.be/l1BSxHQ5Zvo	Prof. S. R. Shah	OK	55/63
4	Prof. N. S. Kariya	MIS	MBA SEM I 1st Year	13/05/2021	https://youtu.be/UBAyHxRUqJg	Prof. S. K. Singh	Nice PPTs	53/63

Note: One week PL is given to SEM IV Students

Prof. N.S. Kariya
Academic In-charge
Department of M.B.A.

Prof. S. R. Shah
HOD
Department of M.B.A.

H.O.D. (MBA Dept.)
P.R.Pote (Patil) College of Engg. & Management,
Amravati.

P. R. Pote (Patil) College of Engineering & Management, Amravati

Department of Civil Engineering

Lecture Observation Report & YouTube Link **12.04.2021**

Sr. No	Name of Faculty	Subject	Semester & Year	Date	You Tube Link	Name of Observer	Remark	Total No. of Students Present	Total No. of Students
1	Prof.S.V.Pawar	EE-II	VIIIth Sem (Final Year)	12/04/ 2021	https://youtu.be/WUZ3YPxK07M	Dr. S. S. Saraf	Good	42	70
2	Prof.A.K.Chitkeshwar	PPM			https://youtu.be/xe_Fv9o4EyA	Prof. N. P. Bhopale	Very Good	43	70
3	T & P	T & P			Online Meeting	Prof. S. V. Dhoke	----	----	70
4	Prof. C.S.Bidwaik	Estimating & Costing	VIth Sem (Third Year)	12/04/ 2021	https://youtu.be/iRQGjY9GKVY	Dr. S. S. Saraf	Good	87	132
5	Prof.M.G.Walecha	NCES			https://youtu.be/Kezisv2jbKU	Prof. N. P. Bhopale	----	74	132
6	Prof.S.V.Dhoke	NMCP			Class Test	Prof. S.V. Pawar	----	70	132
7	Dr. S.S.Saraf	GT-I	IV th Sem (Second Year)	12/04/ 2021	https://youtu.be/jWq6xJ3gRoY	Dr. S. S. Saraf	Very Good	107	155
8	Prof.R.S.Pagrut	HYD & WRE			https://youtu.be/hFiw2OPMJsI	Prof. N. P. Bhopale	Good	98	155
9	Prof.M.A.Rehman	SUR-I			https://youtu.be/NR_WQmyvYo4	Prof.A.K. Chitkeshwar	Very Good	95	155

Academy Incharge

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote Patil College of Engineering and Management, Amravati

Department of Mechanical Engineering

Syllabus Coverage Session 2020-21 (Odd Semester)

Sr. No.	Subject	Section	Name of Faculty	No. of Online lectures engaged	Syllabus covered (in units)	Syllabus covered (in %)
1	M III	II Year	Dr.S A. Khapre	61	6	100
2	MOM		Prof. P. K. Shivankar	52	6	100
3	FP I		Prof.V.G.Gore	55	6	100
4	ET		Prof.P.B.Ingle	58	6	100
5	MP I		Prof P R Wadnerkar	42	6	100
6	EVS		Dr.A.D.Bhoyar	14	4.5	75
7	PT	III Year	Prof P R Wadnerkar	37	6	100
8	HT		Prof.P.B.Ingle	63	6	100
9	MS		Prof. G. S. Mahalle	51	6	100
10	TOM I		Prof. S. P. Yeole	68	6	100
11	IE		Prof.R.S.Pokale	48	6	100
12	MD & D II	Final Year	Prof. P. K. Shivankar	45	4/4	100
13	EC II		Prof.V.G.Gore	69	6	100
14	IMC		Prof.S.V.Mishra	50	6	100
15	AE		Prof.R.S.Pokale	50	6	100
16	Mechatronics		Prof. M G Walecha	36	6	100
17	Tool Engg		Prof.S.V.Mishra	41	6	100

I/C Syllabus Coverage

SSM

Academic In-Charge

HoD ME

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Manage.
Amravati

P. R. Pote Patil Education &Welfare Trusts Group of Institutions,

College of Engineering & Management, Amravati.

Department of Mechanical Engineering

Session 2020-21 (Even Semester)

Syllabus Coverage Report from 27th Jan to 25th June 2021

Sr. No	Name of the Faculty	Year & Sem	Subject Taught	No. of Online Lectures Conducted	Syllabus Covered %
1	Dr. P. R. Wadnerkar	Second Year IV Sem	MT	48	100
2	Prof. S. G. Dalu	Second Year IV Sem	MS	43	100
3	Prof. G. S. Mahalle	Second Year IV Sem	H&P	39	100
4	Prof. Y. D. Bansod	Second Year IV Sem	EC-I	43	100
5	Prof. A. K. Duchakke	Second Year IV Sem	BEDC	42	100
6	Prof. M .G. Kukalkar	Second Year IV Sem	EVS	24	100
7	Prof. S. V. Mishra	Third Year VI Sem	CSA-II	48	100
8	Prof. P. K. Shivankar	Third Year VI Sem	CSE	48	100
9	Prof. M. G. Walecha	Third Year VI Sem	CS	31	100
10	Prof. S. P. Yeole	Third Year VI Sem	RES	36	100
11	Prof. G. S. Mahalle	Third Year VI Sem	FP II	40	100
12	Prof. A. S. Shaikh	Third Year VI Sem	TOM-II	39	100
13	Dr.S. M. Tondre	Final Year VIII Sem	ORT	53	100
14	Prof. V. G. Gore	Final Year VIII Sem	RAC	72	100
15	Prof. R. S. Pokale	Final Year VIII Sem	Robotics	44	100
16	Prof. D. K. Chavhan	Final Year VIII Sem	I C Engine	58	100
17	Prof. S. S Mendhe	Final Year VIII Sem	AMS	45	100
18	Prof. N. R.Deshmukh	Final Year VIII Sem	AE	45	100

I/C Syllabus Coverage

Academic In-Charge

HoD/ME

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Manageme
Amravati

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.3	Teachers of the Institution participate in following activities related to curriculum development and assessment of the affiliating University and/are represented on the following academic bodies during the year

Criteria-1 Curricular Aspects

1.1.3

Contents

Criteria 1.1.3 Civil

BOS meeting 20-21

SANT GADGE BABA AMRAVATI UNIVERSITY

Tel : 0721 - 2668158
Website : www.sgbau.ac.in

No. : SGBAU/6-D/BOS/A- 56 /2020
Date : 31 /07/2020

To,

1) Dr.S.K..Deshmukh **(Chairperson)**
Principal, College of Engineering & Technology,
Babhulgaon (bk), Tq. & Dist. Akola.

2) Dr.P.S. Pajgade
Prof. Ram Meghe Inst. of Technology & Research,
Badnera, Amravati.

3) Dr.S.H.Mahure
B.N.College of Engineering, Pusad,
Dist. Yavatmal,

4) Dr.A.I,. Dhatrak
Civil Deptt., Govt. College of Engineering,
Kathora Road, Amravati. 444 606(M.S.)

5) Dr.Abhinandon R. Gupta
College of Engineering & Technology,
Babhulgaon (bk), Tq. & Dist. Akola.

6) Shri N,.W.Ingole
Prof. Ram Meghe Inst. of Technology & Research,
Badnera, Amravati.

7) Dr. Mahendra S, Kadu
89, Mahalaxmi Housing Society, Kachore Lawns,
Baltarodi Road, Somalwada, Nagpur. 440015.

8) Dr.P.O. Modani
Deptt. of Civil Engg.
Pankaj Laddad Inst. of Tech. & Mgmt. Studies,
Chikhali Road, Yelgaon, Buldana. 443001.

9) Dr. Mohammad Zuhair
Head, Deptt. of Civil Engg.
P.R. Pote College of Engineering & Mgmt.
Pote Estate, Kathora Road,
Amravati.

10) Dr.R.S.Tatwawadi
Prin. Jawaharlal Darda Inst. of Engg. & Technology,
Lohatra, near M.I.D.C. Yavatmal.

11) Dr.A.N. Shrikhande
Deptt. of Civil Engineering,
Kavikulguru Instt. of Technology & Science (KITS),
Ramtek, Dist. Nagpur.

12) Shri A.A. Kothale
22, Jivanchaya Colony,
Rukmini Nagar, Amravati. 444 606.

Subject : Meeting Notice & Agenda of the Emergency On-line meeting of the Board of Studies.

Sir,

I am directed to inform you that the Emergency On-line meeting of the Board of Studies in **Civil Engg. (Incl. C.T.)** in the faculty of **Science & Technology** for preparation of the syllabi of Semester III & IV of B. E.(Civil) as per A.I.C.T.E. Model Curriculum is scheduled to be held on **10th August, 2020 at 2.00 p.m.** which will be hosted by the Chairperson of the Board of Studies.

AGENDA

ITEM NO. 1 :

To prepare and recommend the Draft syllabi of Sem. III & IV of B. E. (Civil) **as per A.I.C.T.E Model Curriculum...**

To prepare and recommend the Draft Syllabi of Sem. III & IV of B.E. (Civil) to the Faculty of Science & Technology as per the Schemes of teaching & examination of Sem.III to VIII of B. E.

(Civil) as per A.I.C.T.E. Model Curriculum as recommended by the Committee of all B.O.S. Chairpersons of Engg. & Technology under the Chairmanship of the Dean, Faculty of Science & Technology as constituted by the Hon'ble Vice-Chancellor. The Schemes of teaching & examination are accepted and approved by the Hon'ble Vice-Chancellor under Section 12 (7) of the M.P.U. Act, 2016 on behalf of the Faculty of Science & Technology & Academic Council.

(Copies enclosed herewith vide **Page Nos. A - to A-**)

ITEM NO. 2:

To recommend the Chances & Scheme of Equivalence & Absorption for the failure students.

To recommend the chances and Equivalence & Absorption Scheme to the failure students of Old Course of Sem. I to IV of B.E. (Civil).

(Copy of the Format enclosed herewith vide **Page Nos. A- to A-**)

Any other Item by the permission of the Chair.

The Chairperson of the Board of Studies is requested to submit the reports i.e. Minutes of the meeting along with the draft syllabi of Sem. III & IV and Scheme of equivalence / Chances as per Agenda of the meeting to the office by mail to the undersigned at the earliest for further process.

You are requested to please make it convenient to join the On-line meeting on the date & time as mentioned above.

Yours faithfully,

sd/-
Deputy Registrar (Acad.)
Sant Gadge Baba Amravati University

****

Sant Gadge Baba Amravati University, Amravati

Minutes of the emergency On-line meeting of the Board of Studies in **Civil Engineering (Incl. C.T.)** in Faculty of Science & Technology regarding preparation of the syllabi of Semester III & IV of B.E. (Civil) as per A.I.C.T.E. Model Curriculum held on **10th August, 2020 at 2.00 p.m.**

The following members were present for the meeting .

13) Dr.S.K..Deshmukh **(Chairperson)**

14) Dr.P.S. Pajgade

15) Dr.S.H.Mahure

16) Dr.A.I,. Dhatrak

17) Dr.Abhinandon R. Gupta

18) Shri N,.W.Ingole

19) Dr. Mahendra S, Kadu

20) Dr.P.O. Modani

21) Dr. Mohammad Zuhair

22) Dr.R.S.Tatwawadi

23) Dr.A.N. Shrikhande

24) Shri A.A. Kothale

At the outset of the meeting, the Chairman welcomed all the members present for the emergent meeting of the Board of Studies and started the business of the meeting.

Following items had been transacted in the meeting.

Item No. 1 : To prepare and recommend the draft syllabus of Sem. III & IV of B.E. (Civil) as per A.I.C.T.E. Model Curriculum.

The Board of Studies prepared the syllabi of Sem. III & IV of B.E. (Civil) as per A.I.C.T.E. Model Curriculum and recommended the same to the Faculty of Science & Technology to be implemented from the session 2020-21 & onwards.

Item No.2 : To recommend the chances/ Scheme of Equivalence & Absorption for the Old Course failure students.

The Board of Studies prepared the chances & scheme of Equivalence & Absorption for the Old Course failure students of Sem. I to IV of B.E. (Civil) and recommended the same to the Faculty of Science & Technology to be implemented from Winter -2020 examination & onwards.

Item by the permission of the Chair :

Record of the proceedings of the meeting :

The meeting started at 2.00 p.m. and completed the business by 5.00 p.m. with considering Item nos. **1 and 2** on the agenda regarding preparation of the syllabi of Sem. III & IV of B.E. (Civil) and Chances / scheme of Equivalence & Absorption for the Old course failure students of Sem. I to IV of B.E. (Civil).

Confirmation of minutes:

Copy of the minutes of the emergency On-line meeting was shown to the members present for the meeting. After confirmation of the minutes, the Chairman thanked the members present for the meeting and declared that the meeting is over.

10 /08 /2020

Dr.S.K..Deshmukh
(Chairperson)

Dr.P.S. Pajgade Dr.S.H.Mahure Dr.A.I,. Dhatrak Dr.Abhinandon R. Gupta Dr.N,W.Ingole Dr. M. S. Kadu

Dr.P.O. Modani Dr.Mohammad Zuhair Dr.R.S.Tatwawadi Dr.A.N.Shrikhande Shri A.A. Kothale

******

NOTIFICATION

No. 115/ 2020

Date : 24.12.2020

Sub : Filling of vacancies on the authorities or bodies of the University.

Whereas sub-section (1) of section 70 of the Maharashtra Public Universities Act, 2016 provides-

> "70(1)- "When any vacancy occurs in the office of a member, other than an ex-officio member or, a member nominated by the Chancellor, of any authority or other body of the university except Management Council before the expiry of his normal term, the vacancy shall be filled by nomination of a person by the Standing Committee constituted under sub-section (3) who is otherwise eligible to be elected on the said authority or body from the same category."

AND

Whereas, there are vacancies occurred now in the membership of the authorities or bodies of the University.

Now, therefore, in accordance with the power conferred on it by sub-section (1) of the Section 70 of the Act, the Standing Committee in its meeting held on 24.12.2020 is pleased to nominate person/s mentioned in column No.2 of the following table as Member/s of the Authority or Body mentioned in column No.3 under the provisions mentioned in column No.4 of the said table.

TABLE

Sr. No.	Name & Address of person nominated	Name of the authority or or body	Nature of the membership on the authority or body
1	2	3	4
1.	Dr.Rahul Dnyaneshwar Ghongade P.R.Patil Education and Welfare Trust Group of Institute College of Engineering & Management, Amravati	BOS in Electronics, Ind. Electronics & Applied Electronics	40(2)(c)
2.	Dr.Aparna Sadanand Telang P.R.Patil College of Engineering & Technology, Amravati.	BOS in Electrical Engg. (incld. E.P.S.)	40(2)(c)
3.	Dr.Nitin S.Bhajipale Institute of Pharmacy, Kaulkhed, Akola	BOS in Pharma. Sciences	40(2)(c)
4.	Quazi Mohd. Amjad Asadullah Madhukarrao Pawar Arts College, Murtizapur	BOS in Hindi (incld Trans. Functional Hindi)	40(2)(c)

Sd/-
Registrar
Sant Gadge Baba Amravati University.

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

No.SGBAU/PET/505/506/2021
Date:-11/03/2021

Most Urgent and Time Bounded

To,

Dr. Warkad S.B.
P.R. Pote College of Engg &
Management, Kathora Road, Amravati

Subject: - Appointment as Paper Setter for conducting Ph.D. Entrance Test(PET).

Sir/Madam,

I am pleased to inform you that, on the recommendations of the Board of Examinations, the University has appointed you as paper setter for preparing question paper set in the Electrical Engg subject for Ph.D. Entrance Test (PET).

I am enclosing herewith the following copies for your information -

1) Syllabus of respective subject at P.G.Level.

2) Instruction for Paper setters

3) Declaration form.

4) For No. 60 (Black Paper)

5) Remuneration Bill

You are requested to kindly prepare 100 questions with answer key for the Ph.D. Entrance Test(PET) as per instructions. The sealed pocket of the paper set, their options and correct answer, be submitted to the undersigned during office hours on or before 10th April 2021 positively.

Further, it is to inform you that the question paper set be placed and sealed in the envelope "A" and their answer key in the envelope "B" and both the envelops i.e. A and B to be placed and sealed in the envelope "C".

Thanking you.

Encl: As above.

Yours faithfully
Asstt. Registrar (Confidential)
Sant Gadge Baba Amravati University

P. R. Pote Patil Edu. & Welf. Trust's Group of Institutions,
College Engineering & Management, Amravati
(Recognized by AICTE, New Delhi, DTE, Mumbai & Affiliated to SGBAU, Amravati)
Pote Estate, Pote Patil Road, Kathora, Amravati (Maharashtra)

Ref.: PRPIOEM/MCQletter/2021/262 Date: 09/04/21

प्रति,

संचालक,
परिक्षा व मूल्यमापन मंडळ,
संत गाडगे बाबा अमरावती विद्यापीठ,
अमरावती.

विषय : **हिवाळी-२०२० परीक्षेकरीता बहूपर्यायी (MCQ) पध्दतीने प्रश्नसंच तयार करणेबाबत.**

संदर्भ : **क्र. संगाबाअवि/५/ MCQ /२०२१ दि. ३०/०१/२०२१**

महोदय,

उपरोक्त विषयाला अनुसरून संदर्भांकीत पत्राच्या अनुषंगाने, परिक्षा व मूल्यमापन मंडळ विद्या परिषद व व्यवस्थापन परिषदेने हिवाळी-२०२० परिक्षेचे बहुपर्यायी प्रश्नसंच तयार करुन आमच्या महाविद्यालयातील शिक्षकांकडून विद्यापीठाने दिलेल्या नियमावलीचा अवलंब करून प्रश्नसंच सादर करण्यात येत आहे.

करीता माहिती व कार्यवाहीस्तव सादर.

आपला

प्राचार्य
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

सोबत : प्रश्नसंचाचे १० शिलबंद पाकीटे

9/04/21

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

LIST OF PAPER SETTERS FOR MCQ QUESTION PAPER SETS

College Code- 817

S.N.	Name of Exam	Name of Paper Setter	Subject	Code No.	Paper
1	B.E./ELECTRONICS AND TELECOMM.(I) THIRD SEMESTER (CGS)	GUPTE A.A.	3 X7 4 / 3 KN 04	3021	ELECTRIC DRIVES & MEASUREMENT.
2	B.E./B.TECH./B.TECH.(COMMON FOR ALL) SEM-I & II (NEW)	BHOJANE S.R.	1BY	2974	ENGINEERING MATHEMATICS-II
3	M.E. ELECTRICAL ENGG.(ELECTRICAL POWER SYSTEM) SEM-I	TELANG A.S.	EP2101	3917	ADVANCED CONTROL SYSTEM.
4	M.E. ELECTRICAL ENGG.(ELECTRICAL POWER SYSTEM) SEM I	SHAHAKAR D.A.	EP2104	3920	ADVANCED ELECTRIC DRIVES.
5	M.E. MECHANICAL ENGG.(THERMAL ENGG.) SEM I (NEW-CGS)	GORE V.G.	1 MTE 5	3932	ELECTIVE-I MODERN ENERGY SOURCES

Regarding MCQ Paper set
Inbox

Assistant Registrar CONFIDENTIAL 1:53 PM (1 hour ago)

to sadhana_wakde, me

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

LIST OF PAPER SETTERS FOR MCQ QUESTION PAPER SETS

College Code- 817

S.N.	Name of Exam	Name of Paper Setter	Subject	Code No.	Paper
1	M.E. FULL TIME (CIVIL ENGG.) (GEOTECHNICAL ENGG.) SEM-I (C.G.S.-NEW)	SARAF PROF.S.	1 SFGE 3	3972	ADVANCED FOUNDATION ENGINEERING.

P. R. Pote Patil Edu. & Welf. Trust's Group of Institutions,
College of Engineering & Management, Amravati
(Recognized by AICTE, New Delhi, DTE, Mumbai & Affiliated to SGBAU, Amravati)
Pote Estate, Pote Patil Road, Kathora, Amravati (Maharashtra)
Ph. No. 0721-2530342, 44, 2530339, Fax No. : 0721-2530341
Email : prpcoe@rediffmail.com
University Code : 617
DTE Code : 1117

Ref.: PRPCOEM/Uni.Exam/218/2020-21 Date: 09/02/21

प्रति,

संचालक,
परिक्षा व मूल्यमापन मंडळ,
संत गाडगे बाबा अमरावती विद्यापीठ,
अमरावती.

विषय : हिवाळी-२०२० परीक्षेकरीता बहुपर्यायी (MCQ) पध्दतीने प्रश्नसंच तयार करणेबाबत.

संदर्भ : क्र. संगाबाअमवि/प्र/ MCQ /२०२१ दि. ३०/०१/२०२१

महोदय,

उपरोक्त विषयाला अनुसरून संदर्भाकीत पत्राच्या अनुषंगाने, परिक्षा व मूल्यमापन मंडळ विद्या परिषद व व्यवस्थापन परिषदेने हिवाळी-२०२० परिक्षेचे बहुपर्यायी प्रश्नसंच तयार करुन आमच्या महाविद्यालयातील शिक्षकांकडून विद्यापीठाने दिलेल्या नियमावलीचा अवलंब करून प्रश्नसंच सादर करण्यात येत आहे.

करीता माहिती व कार्यवाहीस्तव सादर.

आपला

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

सोबत : 5 FECE 05 (Deshmukh Shital) प्रश्नसंचाचे

cc शिलबंद पाकीटे

09/02/21

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.2 Academic Flexibility

1.2.1	Number of Programs in which Choice Based Credit System (CBCS)/ Elective Course system has been implemented

Criteria-1 Curricular Aspects

1.2.1

Contents

NOTIFICATION

No. 89/2020 Date : 26/10//2020

Subject : Implementation of new Syllabi of Semester III & IV of B.E. (C.B.C.S.) as per A.I.C.T.E. Model Curriculum…

It is notified for general information of all concerned that the authorities of the University have accepted to implement new Syllabi of Semester III & IV of B.E./B.Text. E./B.Tech. (Chem.Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Tech.) (C.B.C.S.) as per A.I.C.T.E. Model Curriculum to be implemented from the academic session 2020-21 & onwards as per "**Appendix – A**" as given below:

Sd/-
(Dr.T.R.Deshmukh)
Registrar

"**Appendix – A**"

SYLLABI OF B.E. SEM. III & IV (CIVIL ENGINEERING) [C.B.C.S.]

THIRD SEMESTER

3CE01 MATHEMATICS III

Objectives:-

- Find general solutions of linear differential equations with constant coefficients using the roots of the auxiliary equation.
- Calculate the Laplace Transform of basic functions using the definition.
- Compute the partial Differential Equations.
- Understand the computational details behind certain numerical methods.
- Compute the Analytic function.
- Compute and interpret the correlation coefficient.

Course Outcomes:
After successfully completing the course, the students will be able to:

1. Demonstrate the knowledge of differential equations and partial differential equations, applied to electrical engineering systems.
2. Apply Laplace transform to solve differential equations.
3. Demonstrate the use of Partial Differential Equations.
4. Compute different Numerical Methods.
5. Apply the knowledge of Complex Analysis.
6. Demonstrate the basic concepts of probability and statistics.

SECTION-A

Unit I : Ordinary Differential Equations :

Complete solution, Operator D, rules for finding the complementry function, the inverse operator, Rules for finding particular integral. Method of variation of parameters, Cauchy's and Legendre's Linear Differential equations. Simultaneous linear differential equations with constant coefficients Applications to civil engineering. (7)

UnitII: Laplace transforms:

Definition and elementry properties, Inverse L.T. by various methods, Convolution theorem, Solution of ordinary differential equation using Laplace transform of periodic functions. Application to problems of beams and fluids. (7)

UnitIII : Partial DifferentialEquations :

P.D.E. of first order and first degree of types i) f(p,q) = O ii) f(p,q,z)=0, iii) f(p,q,x,y)=O iv) f(p,q,x,y,z)=O i.e. (a) Lagrange's form Pp + Qq = R (b) Clairtut's form z=px+qy+f(p,q) v) Equations reducible to above standard types linear Homogeneous P.D.E. of nth order with constant co-efficients. (7)

SECTION-B

UnitIV: **Numerical Methods :-** (i) Solution of Algebraic and transcendal Equations by Newton Raphson method and by method of FalsePosition.

(ii) Solution of system of linear equations by Grout's method, Gauss Seidal method and Relaxation Method.

Numerical solution of differential equations by Picard's method, Taylor's series method, Euler's method, modified Euler's method and Rungekutta forth order method. (7)

Unit V : Complex variable :

Analytic functions, C.R.conditions, Harmonic functions. harmonic conjugate functions, Milne's method, conformal mappings (translation, rotation, magnification, inversion, bilinear transformation) (7)

UnitVI : Statistics :

Probability : Axioms, conditional probability, Baye's theorem, Mathematical Expectation and probability distributions (Binomial, Poisson and Normal). Curve fitting by method of least square only for line and parabola, Correlation, regression. (7)

TEXT BOOKS:

1. Elements of Applied Mathematics by P. N. Wartikar and J. N. Wartikar. Poona Vidhyarthi Publisher
2. Higher Engineering Mathematics by B.S.Grewal. Khanna Publishers
3. Introduction to method of Numerical Analysis- S. S. Shastry, 2ND Edition, PHI Pvt. Ltd.,New Delhi.

REFERENCES:

1. A Mathematical Companion for Science and Engineering Students – Brettenbach, Oxford University Press, 2008
2. Advancing Engg. Mathematics, E.K.Kreyzig, John Wiley
3. Numerical Method for Mathematics Science and Engineering, John H. Mathew, PHI 4. Numerical Methods - Principles, Analysis & Algorithms Pal, Oxford.

3CE02 – STRENGTH OF MATERIALS

Learning Objectives of Subject:

1. To determine theMechanica lbehavior of the body and construction materials bydetermining the stresses, strains produced by the application of loads.
2. To apply the fundamentals of simple stresses and strains.
3. To make one understand the concept of bending and its theoretical analysis.
4. To apply fundamental concepts related to deformation, moment of inertia, load carrying capacity, shear forces, bending moments, torsional moments, principal stresses and strains, slopes and deflection.

Course outcomes:

At the end of the subject the students will be able -

1. To understand the basics of material properties, stress and strain.
2. To apply knowledge of mathematics, science, for engineering applications
3. To identify, formulate, and solve engineering & real life problems
4. To design and conduct experiments, as well as to analyze and interpret action and reaction data.
5. To understand specific requirement from the component to meet desired needs within realistic constraints of safety.

SECTION – A

Unit I: Mechanical properties: Concept of direct and shear stresses and strains, stress-strain relations, Biaxial and triaxial loading, elastic constants and their relationship, stress-strain diagrams and their characteristics for mild steel, tor steel, Generalized Hook's law, factor of safety. Uniaxial stresses and strains: Stresses and strains in compound bars in uniaxial tension and compression, temperature stresses in simple restrained bars and compound bars of two metals only.

Unit II: Axial force, shear force & bending moment diagrams: Beams, loading and support conditions, bending moment, shear force and axial load diagrams for all types of loadings for simply supported beams, cantilevers and beams with overhangs, relation between shear forces, bending moment and loading intensity.

Unit III: Stresses in beams (Bending, Shear), i) Bending: Theory of simple bending, section modulus, moment of resistance, bending stresses in solid, hollow and built up section. ii) Shear: Distribution of shear stresses on beam cross sections, impact loads and instantaneous stresses.

SECTION – B

Unit IV: Torsion: Theory of torsion & assumptions, derivation of torsion equation, polar modulus, stresses in solid & hollow circular shaft, power transmitted by shaft, closed coiled helical spring with axial load. Thin cylinders subjected to internal pressures.

Unit V: Principal stresses: Biaxial stress system, principal stresses, principal planes, Mohr's circle of stresses, principal strains. Combined direct & bending stresses.

Unit VI: Slope & deflection of beams: Slope & deflection in statically determinate beams subjected to point loads, uniformly distributed loads, moments by Macauley's method. Theory of long columns, Euler, Rankin's formula.

Books Recommended:

1. E. P. Popov, "Mechanics of Materials", Prentice Hall of India, New Delhi.
2. S.Timoshenko and O. H. Young, 'Elements of Strength of Materials', East West Press Private Ltd., New Delhi.
3. Ferdinard L. Singer, 'Strength of Materials', Harper and Row, New York.
4. Shames, I. H., 'Introduction to Solid Mechanics', Prentice Hall of India, New Delhi.
5. R. K. Bansal, Strength of materials, Laxmi Publications Pvt Ltd.
6. Junnarkar, S. B., Mechanics of materials.
7. Mubeen, A., Mechanics of solids, Pearson education (Singapore) Pvt. Ltd.
8. Beer and Johston, Mechanics of materials, Mc-Graw Hill.
9. S. Ramamrutham, Strength of Materials, Dhanpat Rai Publishing Co Pvt Ltd.

3CE03 – BUILDING CONSTRUCTION & ENGINEERING GEOLOGY

Learning Objectives of Subject:

1. To understand various types and components of civil structure.
2. To learn about the type of infilling material, its features and construction methodology.
3. To understand various levels in building – floor, sill, lintel, roof levels and their need.
4. To understand the need and type of vertical and horizontal circulation.
5. To make aware of knowledge and importance of rock, soil and its impact for site selection.
6. To help one to understand the reason for Earthquake and its impact on soil / rock properties.

Course outcomes:

At the end of the subject the students will be able -

1. To understand Load bearing and Frame structure.
2. To recognize various types of construction material and its suitability
3. To recognize the various levels in building and its need.
4. To know types of staircase, doors, windows and other related fixtures.
5. To recognize types of rock and minerals and its construction properties.
6. To know reason for earthquake and seismic waves.

SECTION - A

Unit I: Introduction: Definition, types of buildings as per national building code, components of buildings and their functions, Types of structure – load bearing & framed structures. Foundation: Definition and necessity, loads of foundation, Bearing Capacity soil, field methods of improving bearing capacity. Types of foundation – shallow foundation and Types of Shallow foundation.Causes of failure of foundations and precautions to be taken.

Unit II: Masonry: Classification of bricks, manufacturing of bricks, tests on bricks, properties of burnt bricks, fly ash bricks, ALC Blocks. Brick masonry construction – Technical terms, general principles, commonly used types of bonds such as stretcher, header, English bond and Flemish bond, their suitability. Formwork: Different types, their relative merits, demerits, period for removal of formwork for different members. Earthquake resistant bands in masonry- Types, location and application.

Unit III: Floors: Types of Floors – Basement floor, ground floor and upper floors, Floorfinishes – Types of flooring material, different types of floor finishes, suitability, method of construction, criteria for selection. Roofs – Flat, pitched roof, steel roof trusses – types and suitability, types of roof covering. Arches, lintels – Types and their suitability, details of R.C.C. lintels.; chajja, precast lintels arches.

SECTION - B

Unit IV: Doors: Purpose, criteria for location, size of door, door frames.; its types, methods of fixing, Types of door shutters and their suitability, Windows – Purpose, criteria for location, no., sizes; shapes of Windows, types of windows; their suitability. Ventilators – Types and their suitability. Fixtures & fastening for doors and windows. Stairs – Function, technical terms, criteria for location, types of staircases, their suitability, principle of stair layout design.

Unit V: Plastering - Necessity, types, processes of different types of plastering, defects inplastered work. Scaffolding – Purpose, types and suitability. Special Aspects of Construction – Damp proofing – causes of dampness, its effects, various methods of damp proofing.Fire proof construction –Fire protection requirements for a multistoried building. Sound proof Construction – Sound absorbents and their characteristic. Expansion & construction joints in building.

Unit VI: Introduction - Different branches of Geology and importance of Geology in CivilEngineering.Folds, faults, joints in Geology. Geological studies related to site selection for dams and reservoirs. Petrology - rock cycle, rock weathering and soil formation, study of common rock types. Earthquake Engineering - earthquake waves, causes and effects, magnitudeand intensity, earthquake zones of India.

Books Recommended:

1. Mackay W.B.: Building Construction, Vol. I, II, III, Longmans.
2. Sushil Kumar: Building Construction, Standard Publishers Distributors.
3. Singh Parbin: General & Engineering Geology.
4. Mukherjee: A Text Book of Geology.
5. TuyrellG.W.: The Principle of Petrology.
6. WadiaD.N. : Geology of India.
7. Sane L.S.: Construction Engg. ManakTalas, Mumbai.
8. National Building Code of India, 2016.
9. Punmia B.C.: Building Construction.
10. A Manual of Earthquake Resistant, Non-Engineered Construction Indian Society of Earthquake Tech.

3CE04 – TRANSPORTATION ENGINEERING

Learning Objectives of Subject:

1. To learn about basics of Road construction like surveys, alignment principles, types of roads.
2. To study and understand various road studies for safe road design principles and essential geometry.
3. To learn about various road pavements its construction and maintenance procedure.
4. To learn about railway transportation and terms related to it.
5. To learn about construction concepts of Airport runway, Apron layout , various survey and terms related to Airport Transportation.
6. To learn about Tunnels and Bridges components types and related transportation study.

Course outcomes:

At the end of the subject the students will be able –

1. To identify type of roads and its utility.
2. To understand the application of various road studies at time of survey and actual construction.
3. To design the various types of road pavements.
4. To understand rules regulations, signals , type of gauges and railway sleepers density.
5. To recognize the Airport features and design concept of components for Aero plains movement.
6. To identify types and components of Tunnels and bridges and its design components.

SECTION-A

Unit-I Highway: Road Transport characteristics, classification of Roads, Road Patterns, Alignment principles, Survey for highway.

Unit-II Geometric Design: Cross sectional elements, Right of way, Camber, Gradient, Typical Highway cross section in embankment and in cutting, PIEV Theory, stopping sight distance, overtaking sight distance, Horizontal alignment, curves, superelevation.

Unit-III Pavement Design and Traffic Engineering: Components of Flexible and Rigid pavement, Design factor, Traffic Characteristics, Traffic Studies, Construction and Maintenance – WBM Surface dressing, bituminous roads and construction procedure. Road parking system, traffic control devicesand 3 E's of traffic

SECTION-B

Unit-IV:Railway: Railway transportation, track sections, embankment & cutting. Points and crossing Left &right hand turnouts. Objects, Permanent way, gauges, coning of wheels, components of permanent way, Sleeper density, Rail fixtures & fastening. Rail types and functions.

Unit-V: Airport: Agencies controlling national & international aviation, various surveys to be conducted, airport site selection, Aero plane component parts, Aircraft characteristics. Airport obstructions: Zoning laws, wind rose diagram. Basic runway length and corrections, Apron layout, Aircraft parking & parking system.

Unit-VI: Tunnel and Bridges: Tunnels- necessity, types, tunnel alignment, Size and shape of tunnels, and Tunnel lining. Tunnel drainage, ventilation & lighting of tunnels. Bridge Engineering-Components, classification and identification, data collection, site selection, economic span, Estimation of flood discharge, water way, scour depth, depth of foundation, Afflux, clearance and free board, different structural form – culverts, types of foundation, abutments, piers and wing wall.

Books Recommended:

1) Khanna S.K. & Justo C.E. : Highway Engineering
2) Rao G.V. : Principles of Transportation& Highway Engg.
3) Dr.KadiyaliL.R. : Traffic Engg. & Transport Planning.
4) BindraS.P. : Principles & Practice of Bridge Engg.
5) Saxena &Arora : Railway Engineering.
6) Agrawal M.M. : Railway Engineering.
7) Khanna S.K., Arora M.G., Jain S.S. : Airport Planning & Design,
8) Srinivasan: Tunnel Engineering.
9) Shrarma S.K. : Principles, Practice & Design of Highway Engg.
10) Duggal A.K. &Puri V.P. : Laboratory Mannual in Highway Engg.

3CE05 – CONCRETE TECHNOLOGY & RCC

Learning Objectives of Subject:

1. To understand basic construction material - Cement, its property and suitability tests.
2. To learn about meaning of concrete, strength of concrete, mixing proportion and suitability test.
3. To understand meaning of RCC and its need.
4. To learn various properties of concrete and use of different admixtures.
5. To learn about special concrete materials and methods.
6. To be able to perform mix design of concrete

Course outcomes:

At the end of the subject the students will be able -

1. To know need and composition of binding material, cement.
2. To recognize concrete and RCC and will be able to perform desired test for suitability,
3. To analyze RCC Components like slab and lintels.
4. To decide and utilize the admixtures as per the need of Concrete.
5. To understand importance of mix design.

SECTION-A

Unit I: Cement: Physical properties of Portland cement, laboratory tests on cement, types of cements. Aggregate: Classification of aggregate, physical properties, bulking and moisture content, specific gravity, bulk density.

Unit II: Properties of fresh concrete: Workability of concrete, methods of measuring workability, nominal mix, mixing, centering & formwork, placing, compaction and curing of concrete. Properties of hardened concrete: Grades of concrete, properties of concrete, compressive, tensile, and shear strength, modulus of elasticity, creep, shrinkage.Durability of concrete,laboratory tests on concrete.

Unit III: Basic elastic theory and concept of reinforced concrete, types of reinforcement, Analysis of rectangular sections by working stress method, modes of failure, design of singly reinforced beams, one-way slabs (simply supported), lintels, andchajjas.

SECTION-B

Unit IV: Pozzolana and Admixtures: Plasticizer, retarders, accelerators, water proofing agents, mineral admixtures, IS code provisions. Construction chemicals: concrete curing compounds, polymer bonding agent, surface retarders, bond aid for plastering, protective and decorative coating.

Unit V: Special concrete: Ready Mix Concrete Light weight concrete, fiber reinforced concrete, Roller compacted concrete, self-compacted concrete, high strength concrete, high performance concrete, high volume fly ash concrete. Special concreting techniques: Guniting, grouting and shotcrete concrete, introduction & application of Ferrocement.

Unit VI: Introduction of mix design, factors governing mix design, IS Code method of mix design (IS: 10262 – 2019) and Ambuja method.

Books Recommended:

1. Lea, F. M. The Chemistry of Cement and Concrete, Edward Arnold (Publishers) ltd.
2. Neville, A. M.: Properties of Concrete, Pitman Publishing Company.
3. Neville, Brooks: Concrete Technology, ELBS
4. Gambhir, M. L. : Concrete Technology, Dhanpat Rai and Sons
5. Orchard D. F.: Concrete Technology, Applied Science Pub Ltd.
6. Shetty, M. S.: Concrete Technology, S. Chand
7. Varshney, R. S.: Concrete Technology, Oxford Pub. house.
8. IS: 456 – 2000,
9. IS: 10262 – 2019,,
10. Krishna Raju: Design of Concrete Mixes, Mc – Graw Hill.
11. Ambuja Cement Concrete Mix Design- Ambuja Technical Literature series 79.

3CE06 – STRENGTH OF MATERIALS – LAB

List of Practical's in Strength of Material Lab (Minimum any eight practical from the list should be performed)

1. Tension test on metals.
2. Compression test on metals.
3. Shear test on metals.
4. Impact test on metals.
5. Hardness test on metals.
6. Torsion test on metals.
7. Deflection of beams.
8. Modulus of rupture test.
9. Buckling of columns.
10. Deflection of springs.

3CE07 BUILDING CONSTRUCTION & ENGINEERING GEOLOGY – LAB

List of Practical's in Building Construction & Engineering GeologyLab (Minimum any eight practical from the list should be performed)

1. Drawing of following building elements on A-2 size sheet.
   a) Paneled door, flush door, and glazed window.
   b) Steel truss with details of joints, details & support, details of fixing of roof covering.
2. Planning & drawing of a staircase for the given data. [On A-2 size sheet, Design calculations, plan & section.]
3. Preparation of foundation plan from the given line plan of a two room building [On a A-2 size sheet.]
4. Layout of the above, in field.
5. Fields visits to building under construction and its report writing including material of construction, construction processes, Human recourses required, and construction details.
6. Sketch book containing Free hand sketches of following:

Different types of foundations, Bonds in brick masonry, Types of floors. [Sections] Types of stairs. [Plans and side view], Line sketches of different types of steel roof trusses, Details of expansion joints, Details of damp proofing for basement, Fixtures & fastenings of doors & windows.

7. To determine shape and size of supplied bricks.
8. Field visit for different types of roof structures.
9. Field visit for studying building component in Load bearing and framed structure.
10. Megascopic study of silicate and non-silicate mineral, with special reference to physical properties of minerals and uses.
11. Megascopic study of the common igneous, sedimentary and metamorphic rocks, with special reference to engineering properties of rock and uses.

3CE08 TRANSPORTATION ENGINEERING – LAB

List of practicals in Transportation Engineering-Lab (Minimum eight experiments from the list should be performed)

1. Determination of Los Angeles value
2. Determination of Abrasion value of Aggregates by the use of devil machine
3. Determination of Aggregate Impact value
4. Determination of Aggregate Crushing value
5. Determination of Flakiness and Elongation Index of Aggregate.
6. Determination of Viscosity of Bituminous material
7. Determination of softening point of bituminous material.
8. Determination of ductility of bitumen.
9. Determination of marshal stability value

3CE09 CONCRETE TECHNOLOGY & RCC – LAB

List of Practicals in Concrete Technology & RCC Lab (Minimum eight practical from the list should be performed) :

1. Mix Design (Compulsory) by IS method.
2. Compulsory site visit and submission of site visit report.
3. Fineness of cement
4. Soundness of cement
5. Consistency and setting time of the cement
6. Compressive strength of cement
7. Sieve analysis of aggregate.
8. Bulking of sand (fine aggregate).
9. Silting of sand.
10. Workability by slump cone test compaction factor test
11. Admixture: Density, Compatibility Test
12. Workability by flow table method.
13. Compressive & Tensile strength of concrete.

****

FOURTH SEMESTER

4CE01 BUILDING PLANNING DESIGNING & CAD

Learning Objectives of Subject:

1. To understand need of engineering drawings and methods to draw it.
2. To learn about various planning principles and able to apply on residential buildings.
3. To understand seasonal and climatic condition and corresponding provisions in structure.
4. To know regional rules regulation related to building construction.
5. To learn various types of plan – Block , Site , Line , Detail , Section etc.
6. To learn about smart buildings.

Course outcomes:

At the end of the subject the students will be able -

1. To make engineering drawings by First angle and Third angle method.
2. To apple building planning principles practically while developing projects.
3. To study the climatic conditions and decide the corresponding provision in structure.
4. To know about Bylaws, Town development authority rules and terms.
5. To draw various plans manually and computationally.

SECTION-A

Unit I: Importance of building drawing for Civil Engineering in construction & industry, estimation, Selection of scales for various drawings. Types of line and theirapplication. Methods of dimensioning in architectural drawing. Abbreviations and graphical symbols used in Civil Engineering Drawing as per IS: 962. Compare first angle and third angle method of projection. Layout of sheet for civil engineering drawing. Requirements of drawing and documents as per plan sanctioning authorities. Define FSI and TDR.

Unit II: Planning of residential building. Introduction, general principles of planning viz. aspect, prospect, roominess, privacy, grouping, circulation, ventilation, furniture requirement.

Climate of Indian and its influence on Building planning: Solar radiation, air temperature, wind, humidity, precipitation, earth & its motion, directions to their characteristics. Orientation of buildings: factors affecting orientation, sun, wind, rain. Requirement of the owner. Alternatives of building types viz. individual bungalows, semidetached houses, row houses, apartments. Provision of mezzanine floor, balconies and porches in the building. Common utilities such as parking, security, water supply, sanitation, etc. for apartments. Criteria for earthquake resistant planning of building.

Concepts of Digitized / Smart Buildings, Internet of Things (IOT) in buildings and Green Buildings, Industrialized Buildings

SECTION -B

Unit-III: Building Bye-laws and Development Control Rules for D Class Municipal Corporations in the Maharashtra State under the provisions of the Maharashtra Regional & Town Planning Act, 1966. Conversion of land to non-agricultural lands, layout for a housing project.Types of public building and their requirements, planning of public building.

Preparing line plans of different public buildings such as schools, commercial market, primary health center, workshop, college building, post-office. Free hand sketching of components of buildings and elevation features of building such as balconies, chajjas, etc.,Staircase planning & drawing.

Unit IV: Concept of line plan, working and submission drawings of the building. Details to be incorporated in the working drawing. Necessity and use of working and submission drawing. Concept of site plan, block plan and layout plan. Importance and details to be incorporated. Concept of foundation plan, importance and use. Developing working and submission drawings for load bearing and framed structures building from the given line plan(Develop plan, elevation, LHSV, RHSV, back side view, section, foundation plan, site plan and their detail). Plumbing ramp, Electric plan.

Books Recommended :

1. Shah, Kale &Patki, Building Planning & Drawing, Tata McGraw-Hill plubication
2. Dr. Kumar Swamy& Rao Swamy, Charotar publications
3. CheryR , Auto cad Pocket reference, BPB Publication.

4CE02 - HYDROLOGY & WATER RESOURCE ENGINEERING

Learning Objectives of Subject:

1. To study the different hydrological parameters.
2. To understand hydrological statistics and design.
3. To characterize and mitigate natural and man-made hazard.
4. To understand the various irrigation systems and its design.

Course outcomes:

At the end of the subject the students will be able -

1. Explain the hydrology and hydrological data.
2. To analyze the hydrological methods for runoff.
3. Evaluate the ground water hydrological problems.
4. Explain the need of irrigation systems and its alternatives.

SECTION – A

Unit I: Introduction - Hydrologic cycle, applications in engineering, sources of data. Precipitation- Forms of precipitation, characteristics of precipitation in India, measurement of precipitation, rain gauge network, mean precipitation over an area, depth-area- duration relationships, maximum intensity/depth-duration-frequency relationship, Probable Maximum Precipitation (PMP).

Unit II: Abstractions from precipitation - evaporation process, analytical methods of evaporation estimation, reservoir evaporation and methods for its reduction, evapotranspiration, measurement of evapotranspiration, interception, depression storage, infiltration, infiltration capacity, measurement of infiltration, modeling infiltration capacity, classification of infiltration capacities, infiltration indices.

Unit III: Runoff - runoff volume, methods of estimating runoff volume, flow duration curve, flow-mass curve, hydrograph, factors affecting hydrograph, components of hydrograph, base flow separation, effective rainfall, unit hydrograph. Ground water and well hydrology - forms of subsurface water, saturated formation, aquifer properties, geologic formations of aquifers, well hydraulics: steady state flow in wells, equilibrium equations for confined and unconfined aquifers, aquifer tests.

SECTION – B

Unit IV: Water requirement of crops-Crops and crop seasons in India, cropping pattern, duty and delta; Quality of irrigation water; Soil-water relationships, root zone soil water, infiltration, consumptive use, irrigation requirement, frequency of irrigation; Methods of applying water to the fields: surface, sub-surface, sprinkler, pipeline distribution network(PDN) and trickle / drip irrigation.

Unit V: Distribution systems - canal systems, alignment of canals, canal losses, estimation of design discharge. Design of channels, Kennedy's and Lacey's theory of regime channels. Canal outlets: non-modular, semi-modular and modular outlets. Lining of canals, types of lining. Water logging problems, causes, effects and remedies.

Unit VI: Dams and spillways – Earthen dams: Classification, design considerations, selection of suitable site. Estimation and control of seepage, slope protection. Gravity dams: forces on gravity dams, causes of failure, stress analysis, elementary and practical profile. Economic height of dam, Spillways: components of spillways, types of gates for spillway.

Books Recommended:

1. K Subramanya, Engineering Hydrology, Mc-Graw Hill.
2. K N Muthreja, Applied Hydrology, Tata Mc-Graw Hill.
3. G L Asawa, Irrigation Engineering, Wiley Eastern

4CE03 SURVEYING

Learning Objectives of Subject:

1. To learn about the term surveying, various instruments and possible error.
2. To learn Linear Measurement methods and way of conduction.
3. To learn about the measurement at elevation and of Directions , contour development process.
4. To understand and learn performing Plane table surveying.

Course Outcomes:

At the end of the course the student will be able to:

1. Define principles of Surveying, Remote Sensing and Geomatics.
2. Describe different instruments, tools, applications and techniques to determine the positions on the surface of the earth, change detection.
3. To perform Liner measurement methods of surveying.
4. Differentiate the techniques for setting out alignments, curves, other layouts, modern survey systems etc.
5. To perform survey at elevation and conduct Plane Table survey.

SECTION-A

Unit I: INTRODUCTION: Geo-informatics- definition, disciplines covered, importance. Field Surveying- definition & objectives; concept of Geoids and reference spheroids, coordinate systems, plane and geodetic surveys. Methods of location of a point- classification of surveys; principles of surveying Errors in measurements- sources, types of errors and their treatment. Random error distribution, accuracy, precision and uncertainty. Surveying instruments- temporary and permanent adjustment concept, principle of reversal. Maps- types, importance, scales/CI, conventional symbols, and generalization; topographic maps projection systems, sheet numbering systems, map layout.

Unit II:LINEAR MEASUREMENTS: Direct and indirect methods; Chain and tape measurements- corrections to tape measurements; Optical methods- tachometers, sub tense bar; Electronic methods- EDMs, total stations.

Unit III: MEASUREMENT OF ELEVATIONS :Various terms; Methods of height determination; Spirit leveling- different types of levels and staves; booking and reduction of data, classification and permissible closing error; profile leveling and cross sectioning; curvature & refraction and collimation errors; reciprocal leveling. Contours- characteristics, uses and methods of contouring.

SECTION – B

UnitIV:MEASUREMENT OF DIRECTIONS: Bearings and angles; Compass surveying- magnetic bearings, declination, local attraction errors and adjustments.

Unit V: TRAVERSING: Purpose and classification of each; Compass and theodolite traverses, theodolites- different types, uses, methods of observation and booking of data, balancing of traverses, computation of coordinates, omitted measurements Gale's traverse table.

Unit VI: PLANE TABLING: Merits and demerits, accessories; orientation and resection; methods of plane tabling; three point problem and solutions; errors in plane tabling, least square principle, Engineering project surveys- requirements and specifications, various stages of survey.

Books Recommended:

1. D. Clarke: Plane and Geodatic Surveying, Volume I & II
2. T.P. Kanetkar& Kulkarni: Surveying & Levelling, Part I & II.
3. B.C. Punmia : Surveying I & II.
4. N.N. Basak : Surveying & Levelling.

4CE04 - GEOTECHNICAL ENGINEERING –I

Learning Objectives of Subject:

1. To understand the various types of soil and its classification.
2. To learn about the Index and Engineering properties of soil.
3. To make one understand the mechanics of compaction and factors affecting the compaction.
4. To understand the concept of permeability and factors affecting to it.
5. To learn about the concept of seepeage discharge and effective, neutral and total stress in soil mass.
6. To make one understand the stress distribution in soil mass& its engineering applications.

Course Outcomes:

At the end of the subject the students will be able –

1. To determine the Index properties and Atterberg limits for soil classification.
2. To understand the mechanics of compaction and quality control in field.
3. To explain permeability of soil and methods of dewatering.
4. To calculate the seepage discharge and design the graded filter.
5. To understand the concept of consolidation and stress distribution in soil mass.
   To calculate the shear strength of different soil.

SECTION - A

Unit- I History of development of soil mechanics, formation of soil, its significance to the field problems. Soilproperties and its classification, system: Definition of soil, soil as a three phase system, weight – volume relationship Index properties of coarse and fine grained soil BIS classification of fine grained & coarse grained soil.

Unit-II Concept of clay mineral, major soil minerals, their structural formation and properties. Mechanics of compaction, factors affecting compaction, Standard and modified Proctor test, their field Determination, zero air void line, concept of wet of optimum, and dry of optimum, different structures of soil, field compaction & their control. CBR test and CBR value for soak and unsoaked conditions.

Unit-III Absorbed water, surface tension, capillarity and its effect on Soil properties permeability of soil, Darcy's law and validity, Discharge and seepage velocity, factors affection Permeability, determination of coefficient of permeability laboratory and field methods. Permeability for stratified deposits. Drainage and dewatering of soil and it's various methods.

SECTION – B

Unit-IV Laplace equation, its derivation in Cartesian co-ordinate system, its application for the computation of discharge seepage, seepage pressure, quick sand condition, concepts flow net, method to draw flow nets, characteristics and use of flow net, preliminary problem of discharge, estimation of discharge through homogenous earthen embankment, concept of effective neutral and total stress in soil mass, method of arresting seepage, design Terzaghi's criteria for graded filter, concept of piping and criteria of stability against piping.

Unit-V A physical concept of shear strength, Introduction of Mohr's stress diagram, Mohr's failure criteria, Mohr-Coulomb's theory and development of failure envelopes, Unconfined compression test, Laboratory measurement of shear strength for different drainage, conditions by direct shear test, Triaxial test for various drainage conditions, Merits and demerits of various shear strength tests. Concept of pore pressure coefficient shear characteristics of sand, NC and OC clays and partially saturated soil, Influence of soil structure and strain rate on shear strength.

Unit-VI State of stress at a point, stress distribution in soil mass, Boussinesq's theory and its applications, point load, uniformly loaded rectangular and circular area New-mark's chart, its preparation and use, equivalent point load Compression of laterally confined soil, concept of consolidation spring analogy, Terzaghi's theory of one-dimensional consolidation. e-p curve, compression index, swelling index, coefficient of compressibility, Consoledometer-test, determination of Cv Cassagrande's method for determination of pre-consolidation pressure.

Books Recommended:

1) Craig R.F.: Soil Mechanics,
2) Lambe T.W. & Whiteman R.V.: Soil Mechanics, John Wiley and Sons, 1969.
3) Terzaghi K. & Peck R.B.: Soil Mechanics in Engg. Practice, John Wiley & Sons, 1967.
4) Gulhati S.K.: Engg. Properties of Soils, Tata McGraw Hill, New Delhi, 1978.
5) Singh A.: Soil Engg. in Theory and Practice, Asia Publishing House, Mumbai.
6) Venkataramiah C.: Soil Mechanics and Foundation Engineering.
7) B. M. Das, Advanced Soil Mechanics.
8) S. K. Garg: Soil Mechanics and Foundation Engineering.

4CE05 - STRUCTURAL ANALYSIS- I

Learning Objectives of Subject:

1. To understand the action and corresponding displacement in various type of structural elements.
2. To learn about statically determinate and indeterminate structures.
3. To analyze continuous, cantilever and propped cantilever beams.
4. To learn different analysis methods for analysis of beam, frames and trusses.
5. To learn analysis of 2 Hinge and 3 Hinge arches.

Course outcomes:

At the end of the subject the students will be able -

1. To decide what is required to be analyzed depending upon type of structural element.
2. To know about degree of freedom, Condition of equilibrium and determinacy of element.
3. To understand reason for failure and permissible limits for safety.
4. To apply the knowledge of beam analysis for practical analysis and design purpose.
5. To make application of various analysis methods for actual structural member analysis and design.
6. To know merits for utilization of suspension, 2 hinged and 3 hinged arches.

SECTION – A

Unit-I : 1. Classification of Structures, Concept of statically indeterminate Structures, Analysis of fixed beam and propped cantilever, Rotation and sinking of support.

2. Analysis of Continuous beam by theorem of three moments, sinking of support.

Unit-II : 1. Castigliano's theorem I, Unit load method, slope and deflection in determinate beams and portals.

2. Deflection in determinate trusses.

Unit-III : Influence line diagrams for reactions, bending moment and shear force for determinate beams. Rolling loads on simply supported beams concentrated and uniformly distributed loads, maximum shear force and bending moment, focal length.

SECTION - B

Unit IV : 1. Analysis of Cables Suspension Bridge under Concentrated Load and UDL for Cables over pulleys and Cable provided with saddles.

2. Two & Three hinged arches subjected to static loads, Bending moment, radial shear and axial thrust.

Unit V: Slope deflection method: 1. Analysis of continuous beams with and without sinking of support.

2. Analysis of portal frames without side sway.

Unit VI : Moment Distribution method: 1. Analysis of continuous beams with and without sinking of support.

2. Analysis of portal frames without side sway.

Books Recommended:

1. Junnarkar, S. B., Mechanics of Structure, Volume I and II.
2. Jain and Arya, Theory and Analysis of Structures .
3. Reddy. C. S., Basic Structural Analysis, Tata – McGraw hill
4. Wang, C. K., Elementary Analysis of Structures
5. Norris and Wilbur, Elementary Structural analysis.

4CE06 BUILDING PLANNING DESIGNING & CAD – LAB

A. SKETCH BOOK :

1. Draw various types of lines, Graphical symbols for materials, doors, windows, sanitary and water supply installations, electrical installations, Abbreviations as per IS 962:1989, Location for bed, sofa, dining table with chairs, wardrobe, kitchen furniture, etc. Free hand sketches of Verandah, lobby, passage, corridor and balconies. Building layout plan with setback lines, sanitary and water supply lines. Loft and Mezzanine floor.

2. Collect one readymade drawing for residential building (1 BHKD or 2BHKD) Read various details shown on drawing. write summary of observations on the drawing itself such as orientation of rooms, placement of doors and windows, wall thicknesses, flooring in rooms and sanitary block, skirting, dado, kitchen platform-size, height etc; room height, chajja projections, staircase-rise, tread, landing etc. Attach these drawings with the sketch book.

3. Draw line plans for five Residential Buildings with minimum three rooms and staircase in each with WC and Bath.

4. Draw line plans for five Public Building- School Building, Primary Health Centre, Hospital Building, Bank, Post Office, Hostel, Canteen and Shopping Complex. Bar & Restaurant and Hotels, Saloon, Bus Station.

B. FULL IMPERIAL SIZE SHEET (A1)

AUTOCAD: Understanding basic concepts such as Absolute, relative & world Co-ordinates, Drawing units, drawing limits, extend, layers, line types, object snapping, and filter.

Drawing entities in AutoCAD/Felix CAD, various drawing commands, use of object snaps & filters, Editing the drawing different editing commands, Dimensioning commands, Text commands, Hatching commands viewing the drawing different views, view ports, zooming in & out, panning, saving & printing in different scales.

Draw sheet no. 1, 2 and 3 drawing in Auto-CAD or similar software.Prepare sheet no. 3 in Pre-DCR software.

1. SHEET NO. 1 : Submission drawing, **to the scale 1:100,** of single storied Load Bearing Residential Building (4 Room) with Flat Roof and staircase showing developed plan, elevation, section passing through Stair or W.C. and Bath, site plan (1:200), **foundation plan and section (1:50),** area statement, schedule of openings , construction notes.

2. SHEET NO. 2 : Submission drawing, to the scale 1:100, of (G+1) Residential Building Framed Structure (2 BHKD) with attached toilet to 1 bedroom showing the position of European type WC pan) showing developed plan, elevation, section passing through staircase, site plan (1:200), foundation plan **and section** (1:50), area statement, schedule of openings. (Also Show the place for Washing machine, WHB, Pooja, store, bed, dining table with chairs, sofa, wardrobe etc.)

3. SHEET NO. 3: Submission drawing of Apartment / Multi storeyed building to the scale 1:100, showing developed plan, elevation, section passing through staircase or W.C. and Bath and Component Drawing of RCC Lintel and Chajjas. Shows detailed enlarge section.

Note: No identical plans and every student must have his/her own plans and drawings.

4CE07 - HYDROLOGY & WATER RESOURCE ENGINEERING - LAB

TERM WORK: Five problems from the following to be worked out by the students, whenever necessary scale drawing on half empirical size must be drawn:

Practical examination shall consist of viva – voce.
1. Fixing control levels of Reservoir from given data.
2. Cross section, plan, L-section of Earth dam showing all components.
3. Drawing of elementary and practical profile of gravity dam.
4. Drawing of diversion weir on permeable foundation.
5. Drawing of ogee spillway with energy dissipaters.
6. Computer Aided design of unlined and lined canal.
7. Drawing of any four canal structure (No design)
8. Technical Field visit.

4CE08 SURVEYING– Lab

List of Practical's in Surveying Lab (Minimum eight practical from the list should be performed)

1. Distance measurement by chain tape and EDM.
2. Finding RL of given point.
3. Profile and cross section leveling for road.
4. Measurement of bearings with prismatic compass.
5. Chain and compass traversing.
6. Local attraction detection- correction of bearings.
7. Measurement of Horizontal and Vertical angles using Theodolite.
8. Theodolite Traversing.
9. Plane table surveying- Radiation, Intersection and Resection method.
10. Engineering Project Surveys.

4CE9 GEOTECHNICAL ENGINEERING I – LAB

List of Practical's in Geotechnical Engineering- I Lab (minimum eight practical from the list should be performed)

Experiments:

1. Determination of specific gravity of soil solids by Pyconometer, density bottle.
2. Determination of moisture content by ovendrying method.

3. Determination of field density of the soil by sand replacement / core cutter method.
4. Determination of grain size distribution by mechanical sieve analysis.
5. Determination of Atterbergs limits (LL, PL and SL)
6. Determination of Compaction properties (Standard Proctor Test)
7. Determination of permeability of soil by using falling head test
8. Determination of shear strength parameters by direct shear test
9. Determination of unconfined compressive strength of soil.
10. Determination of shear strength parameters by Triaxial list of UU type
11. C.B.R. test. Determination of C.B.R. value by conducting CBR test on soaked sample.
12. Determination of Coefficient of consolidation by conducting consolidation.

****

SYLLABUS OF B.E. [MECH.] SEM. III & IV {C.B.C.S.}

Semester-III
3ME01 MATHEMATICS - III

Course Learning Objectives :

1. To provide the knowledge to solve ordinary Linear Differential equations with constant coefficient and its reducible equation using particular integral and complementary function and apply method of variation of parameter to solve ordinary Linear differential equations
2. To understand the Laplace transform and its inverse transform for the basic functions. Locate the Laplace transform of periodic function. Apply the Laplace transform to solve differential equation
3. To provide knowledge to apply False Position, Newton Raphson method to solve nonlinear & polynomial equations, Apply Gauss Elimination method, Gauss Seidal iterative method, Relaxation method to solve system of linear equations, Apply Eulers method, Runge-Kutta method, Picards method to solve differential equations
4. To understand the Gradient, divergent and curl of vector point functions. To find the directional derivatives of scalar point functions. To discuss the Irrotational and solenoidal vector fields. To define line surface and volume integrals.

Course Outcomes :

Students will be able to -

1. Demonstrate the knowledge to solve ordinary Linear Differential equations with constant coefficient and its reducible equation using particular integral and complementary function and apply method of variation of parameter to solve ordinary Linear differential equations
2. Define the Laplace transform and its inverse transform for the basic functions. Locate the Laplace transform of periodic function. Apply the Laplace transform to solve differential equation
3. Apply False Position, Newton Raphson method to solve nonlinear & polynomial equations Apply Gauss Elimination method, Gauss Seidal iterative method, Relaxation method to solve system of linear equations, Apply Eulers method, Runge-Kutta method, Picards method to solve differential equations
4. Define Gradient, divergent and curl of vector point functions. Finds the directional derivatives of scalar point functions. Discuss the Irrotational and solenoidal vector fields. Define line surface and volume integrals

SECTION-A

UNIT-I : Ordinary differential equations:- Complete solution, Operator D, Rules for finding complementary function, the inverse operator, Rules for finding the particular integral, Method of variations of parameters, Cauchy's and Legendre's linear differential equations. (10 Hrs)

UNIT-II: Laplace transforms : Definition, standard forms, properties of Laplace transform, inverse Laplace transform, initial and final value theorem, convolution theorem, Laplace transform of impulse function, Unit step function, Laplace transforms of periodic function. Solution of Linear differential equations. (10 Hrs)

UNIT-III :a) Partial differential equation of first order of following form- (i) f (p,q)=0; (ii) f (p,q,z)=0; (iii)f (x,p)=g(y,q); (iv) Pp+Qq=R (Lagranges form); (v) z=px+qy+f (p,q) (Clairaut form)
b) Statistics : Curve fitting by method of least squares (Straight and parabola only), Correlation, Regression.
c) Probability Distribution:– Binomial distribution, Poisson and normal Distribution. (10 Hrs.)

SECTION-B

UNIT-IV: Complex Analysis :- Functions of complex variables, Analytic function, Cauchy-Reimann conditions, Harmonic function, Harmonic conjugate functions, Milne's method, conformal mappings (translation, rotation, magnification, inversion, bilinear transformation), singular points, expansion of function in Tayler's and Laurent's series. Cauchy's integral theorem and formula, Residue theorem. (12 Hrs.)

B.E. COMPUTER SCIENCE & ENGG. SEM. III & IV

Syllabus of B.E. Sem. III (Computer Science & Engineering)

3 KS01/3IT01/3KE01 ENGINEERING MATHEMATICS-III

Course Objectives:-

- Find general solutions of linear differential equations with constant coefficients using the roots of the auxiliary equation.
- Calculate the Laplace Transform of basic functions using the definition.
- Apply Laplace transform to find solution of linear differential equations. And solve problems related to Fourier Transform
- Compute and interpret the correlation coefficient.
- Compute the Analytic function and Complex Analysis.
- Perform vector differentiation and integration to analyze the vector fields and apply to compute line, surface and volume integrals.

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Demonstrate the knowledge of differential equations and linear differential equations .
2. Apply Laplace transform to solve differential equations.
3. Demonstrate the use of Fourier Transform to connect the time domain and frequency domain.
4. Demonstrate the basic concepts of probability and statistics.
5. Apply the knowledge of Complex Analysis.
6. Apply the knowledge of vector calculus to solve physical problems.

SECTION-A

UNIT-I: **Ordinary differential equations**:- Complete solution, Operator D, Rules for finding commplementary function, the inverse operator, Rules for finding the particular integral, Method of variation of parameters, Cauchy's and Legendre's linear differential equations. (7)

UNIT-II: **Laplace Transform:-** Definition, standard forms, properties of Laplace transform, inverse Laplace transform, Initial and final value theorem, Convolution theorem, Laplace transform of impulse function, Unit step function, Laplace transforms of periodic function . (7)

UNIT-III: **a) Applications of Laplace Transform:-** Solution of Linear differential equations, Simultaneous differential equation by Laplace transform method

b) Fourier Transform:- Definition, standard forms, Fourier transforms, properties of Fourier transforms, Convolution theorem, Fourier sine and Fourier cosine transforms and integrals, inverse Fourier transforms.(7)

SECTION-B

UNIT-IV: **a) Partial differential equation** of first order of following form:- (i)f (p,q) = 0; (ii) f (p,q,z) = 0; (iii) f (x, p) = g (y,q); (iv) P p + Qq = R (Lagranges Form); (v) z = px + qy + f(p,q) (Clairauts form)

b) Statistics Curve fitting: Least Square Method, Coefficient of Correlations, Lines of Regression. (7)

UNIT-V: **Complex Analysis: -** Functions of complex variables, Analytic function, Cauchy- conditions, Harmonic function, Harmonic conjugate functions, Milne's Method, conformal mappings (translation, rotation, magnification and bilinear transformation), Expansion of function in Taylor's and Laurent's series. (7)

UNIT–VI: **Vector calculus**:- Scalar and vector point functions, Differentiation of vectors, Curves in space, Gradient of a scalar point function, Directional derivatives, Divergence and curl of a vector point function and their physical meaning, expansion Formulae (without proof), line, surface, volume integrals, irrotational Solenoidal Vector fields. (7)

TEXT BOOKS:

1. Elements of Applied Mathematics Vol. II by P. N. Wartikar and J.N. Wartikar,
2. Higher Engg. Mathematics by B.S. Grewal.

REFERENCE BOOKS:

1. Advancing Engg. Mathematics by E.K.Kreyzig.
2. A text book of Differential Calculus by Gorakh Prasad.
3. A Text Book of Applied Mathematics by P.N.Wartikar and J.N.Wartikar.
4. Engineering Mathematics by Ravish R Singh, Mukul Bhatt.

3KS02 DISCRETE STRUCTURE AND GRAPH THEORY

Course Pre-requisite: Basic knowledge of Mathematics

Course Objectives: Throughout the course, students will be expected to demonstrate their understanding of Discrete Structure and Graph Theory by being able to do each of the following:

1. Use mathematically correct terminology and notation.
2. Construct correct direct and indirect proofs.
3. Use division into cases in a proof.
4. Apply logical reasoning to solve a variety of problems.

Course Outcomes : On completion of the course, the students will be able to

1. Analyze and express logic sentence in terms of predicates, quantifiers, and logical connectives.
2. Derive the solution for a given problem using deductive logic and prove the solution based on logical inference.
3. Classify algebraic structure for a given mathematical problem.
4. Perform combinatorial analysis to solve counting problems.
5. Develop the given problem as graph net works and solve with techniques of graph theory

Unit I: Foundations: Logic and Proofs (Hours: 7)

Propositions, Truth Tables, Compound Propositions, Logical Operators, Logic and Bit Operations; Logical Equivalences, De Morgan's Laws, Predicates, Quantifiers: Restricted Domains, Precedence, Logical Equivalences; Rules of Inference for Propositional Logic, Use to Build Arguments, Resolution, Combination for Propositions and Quantified Statements; Proofs Terminology, Methods, Direct Proofs, Proof by Contraposition and Contradiction;

Unit II: Sets, Functions and Relations (Hours: 7)

Introduction, Venn Diagrams, Subsets, Size of a Set, Power Sets, Cartesian Products, Set Notation with Quantifiers, Truth Sets and Quantifiers, Set Operations; Inverse Functions, Compositions and Graphs of Functions, Important Functions, Partial Functions; Sequences, Recurrence Relations, Special Integer Sequences, Summations; Countable Sets, An Uncountable Set; Functions as Relations, Relations on a Set, Properties of Relations, Combining Relations; n-ary Relations, Operations on n- ary Relations; Representing Relations Using Matrices; Closures, Transitive Closures

Unit III: Number Theory and Induction (Hours: 6)

Division, The Division Algorithm, Modular Arithmetic, Arithmetic Modulo m; Primes, Trial Division, Conjectures and Open Problems About Primes, GCD and LCM, The Euclidean Algorithm, gcds as Linear Combinations; Linear Congruences, The Chinese Remainder Theorem, Fermat's Little Theorem, Pseudoprimes, Primitive Roots and Discrete Logarithms, Applications: Hashing Functions, Mathematical Induction and Examples of Proofs, Mistaken Proofs, Guidelines for Proofs; Strong Induction, Examples of Proofs.

Unit IV: Algebraic Structures (Hours: 7)

Algebraic Systems: Examples and General Properties; Semigroups and Monoids: Homomorphism of Semigroups and Monoids, Subsemigroups and Submonoids; Groups: Definitions, Subgroups and Homomorphisms, Cosets and Lagrange's Theorem, Normal Subgroups, algebraic Systems with Two Binary Operations.

Unit V: Counting (Hours: 7)

Basic Counting Principles, Complex Counting Problems, Subtraction and Division Rule, The Pigeonhole Principle, The Generalized Pigeonhole Principle, Applications; Permutations, Combinations, Generating Permutations, Generating Combinations.

Unit VI: Graphs (Hours: 6)

Graph Models; Basic Terminology, Special Simple Graphs, Bipartite Graphs, Matchings, Applications of Special Types of Graphs, New Graphs from Old; Graph Representation, Adjacency and Incidence Matrices, Isomorphism of Graphs, Determining Isomorphism; Paths, Connectedness in Undirected Graphs and Directed Graphs, Paths and Isomorphism, Counting Paths Between Vertices; Euler Paths and Circuits, Hamilton Paths and Circuits, Applications of Hamilton Circuits; Planar Graphs: Euler's Formula, Kuratowski's Theorem; Graph Coloring: Introduction, Applications of Graph Colorings.

Text Book: Kenneth H. Rosen: Discrete Mathematics and Its Applications, 7th Edition, McGraw-Hill.

Reference Books:

1. J. P. Tremblay and R. Manohar: Discrete Mathematical Structures with Applications to Computer Science, Tata McGraw-Hill Edition, McGraw-Hill.
2. Norman L. Biggs: Discrete Mathematics, 2nd Edition, Oxford University Press.
3. Seymour Lipschutz and Marc Lars Lipson: Schaum's Outline of Theory and Problems of Discrete Mathematics, 3rd Edition, Schaum's Outlines Series, McGraw-Hill.
4. C. L. Liu and D. P. Mohapatra: Elements of Discrete Mathematics: A Computer Oriented Approach, 3rd Edition, Tata McGraw-Hill, McGraw-Hill.

3KS03 OBJECT ORIENTED PROGRAMMING

Course Pre-requisite: Computer Programming

Course Objectives:

1. To explore the principles of Object Oriented Programming (OOP) such as data abstraction, encapsulation, inheritance and polymorphism.
2. To use the object-oriented paradigm in program design.
3. To Provide programming insight using OOP constructs.
4. To lay a foundation for advanced programming

Course Outcomes : On completion of the course, the students will be able to

1. Apply Object Oriented approach to design software.
2. Implement programs using classes and objects.
3. Specify the forms of inheritance and use them in programs.
4. Analyze polymorphic behaviour of objects.
5. Design and develop GUI programs.
6. Develop Applets for web applications

Unit I: Introduction to Object Oriented Programming (Hours:7)

Introduction, Need of OOP, Principles of Object-Oriented Languages, Procedural Language Vs OOP, Application of OOP, Java Virtual Machine, Java features, Program Structures. Java Programming Constructs: Variables, Primitive data types, Identifier, Literals, Operators, Expressions, Precedence Rules and Associativity, Primitive Type Conversion and Casting, ,Flow of Control.

Unit II: Classes and Objects (Hours:7)

Classes, Objects, Creating Objects, Methods, Constructors, Cleaning up Unused Objects, Class Variable and Methods, this keyword, Arrays, Command Line Arguments.

Unit III:Inheritance, Interfaces and Packages (Hours:6)

Inheritance: Inheritance vs. Aggregation, Method Overriding, super keyword, final keyword, Abstract class. Interfaces: Defining interfaces, Implementing interfaces, Accessing interface variables, Extending interfaces. Packages: Packages, java.lang package, Enum type.

Unit IV: Exception handling and Input /Output (Hours:7)

Exception: Introduction, Exception handling Techniques, User-defined exception, Exception Encapsulation and Enrichment. Input/Output: The java.io.file Class, Reading and Writing data, Randomly Accessing a file, Reading and Writing Files using I/O Package.

Unit V: Applets (Hours:7)

Introduction, Applet Class, Applet structure, Applet Life cycle, Common Methods used in displaying the output, paint (), update () and repaint (), More about applet tag, get Document Base() and get Code Base () methods, Applet Context Interface, Audio clip, Graphic Class, Color, Font, Font Metrics.

Unit VI: Unit Title: Event Handling (Hours:6)

Introduction, Event delegation Model, java.awt.event Description, Sources of events, Event Listeners, Adapter classes, Inner Classes. Abstract Window Toolkit: Introduction, Components and Containers, Button, Label, Checkbox, Radio Buttons, List Boxes, Choice Boxes, Textfield and Textarea, Container Class, Layouts, Menu, Scrollbar.

Text Books:

1. Sachin Malhotra and Saurabh Choudhary: Programming in Java, Oxford University Press 2010.
2. Herbert Schildt: Java Complete References (McGraw Hill)

Reference Books:

1. H.M.Dietel and P.J.Dietel, “Java How to Program” Pearson Education/PHI, Sixth Edition.
2. E. Balagurusamy: Programming with Java (McGraw Hill)
3. Dr. R. NageswaraRao: Core Java An Integrated Approach (Dreamtech)
4. Khalid Mughal: A Programmer’s Guide to Java Certification, 3rdEdition (Pearson)
5. Sharnam Shah and Vaishali Shah: Core Java for Beginners, (SPD), 2010.

3KS04/3KE04 DATA STRUCTURES

Course Pre-requisite: Fundamentals of programming Language & Logic Building Skills

Course Objectives:

1. To understand the linear and nonlinear data Structures and its memory representations.
2. To perform different operations on data structures such as insertion, deletion, searching and traversing.
3. To understand various data searching and sorting methods with its complexity.
4. To introduce various techniques for representation of the data in the real world.

Course Outcomes: On completion of the course, the students will be able to

1. Apply various linear and nonlinear data structures
2. Demonstrate operations like insertion, deletion, searching and traversing on various data structures
3. Examine the usage of various structures in approaching the problem solution.
4. Choose appropriate data structure for specified problem domain

Unit I: Introduction to Data Structures (Hours: 7)

Introduction to Data structures, Data Structure Operations, Algorithmic Notation, Complexity of algorithms.String processing: storing strings, character data type, string operations, word processing, and pattern matching algorithms.

Unit II: Array & Record Structure (Hours: 7)

Linear arrays : Memory Representation of arrays, traversing linear arrays, insertion & deletion operations, Bubble sort, Linear search and Binary search algorithms. Multi dimensional arrays, Pointer arrays.Record structures and Matrices.

Unit III: Linked lists (Hours: 6)

Linked lists: Memory Representation of Linked List, traversing a linked list, searching a linked list. Memory allocation & garbage collection.Insertion & deletion operations on linked lists. Header linked lists, Two- way linked lists.

Unit IV: Stack & Queue (Hours: 7)

Stacks: Sequential Memory Representation of Stack, Arithmetic expressions: Polish notation. Quick sort, Recursion, Tower of Hanoi.

Queues: Sequential Memory Representation of Queue, DeQueue, Priority queues.

Unit V: Trees (Hours: 7)

Introduction to Trees, Binary trees, Memory Representation of Binary Tree, Traversing binary trees, Header nodes, Binary Search Tree, Heap and heap sort, Path length & Huffman's algorithm.

Unit VI: Graphs & Sorting Algorithms (Hours: 6)

Introduction to Graphs, Memory representation of graphs, Warshalls' algorithm, operations on Graphs, Breadth First Search, Depth First Search.

Sorting : Insertion Sort, Selection Sort, Radix sort, Merge Sort.

Text Books:

1. Seymour Lipschutz: Data Structures, Schaum's Outline Series, McGraw-Hill, International Editions.
2. Trembley, Sorenson: An Introduction to Data Structures with Applications, McGraw Hill.

Reference Books:

1. Ellis Horowitz, Sartaj Sahni: Fundamentals of Data Structures, CBS Publications.
2. Data Structure Using C, Balagurusamy.
3. Standish: Data Structures in Java, Pearson Education.

3KS05 ANALOG& DIGITAL ELECTRONICS

Course Prerequisite: Basic Physics.

Course Objectives:

1. To get the introductory knowledge of PN Junction Diode, Bipolar Junction Transistor, Field Effect Transistor.
2. To understand number systems and conversion between different number systems.
3. To get basics knowledge about digital ICs and digital systems.
4. To study the design of combinational circuits and sequential circuits

Course Outcomes : At the end of course students will able to

1. Explain basic concepts of semiconductor devices and its application.
2. Compare different Number System and basics of conversion of number systems.
3. Realize different minimization technique to obtain minimized expression.
4. Design Combinational Circuits.
5. Design and Develop Sequential Circuits.

Unit I: PN Junction Diode and Bipolar Junction Transistor (Hours: 7)

PN-Junction Diode, Characteristics and Parameters, BJT operation, BJT Voltages and Currents, BJT Amplification: Current and Voltage, BJT Switching, Common-Base Characteristics, Common-Emitter Characteristics, Common- Collector Characteristics

Unit II: Field Effect Transistors (Hours: 7)
Junction Field Effect Transistors, n-Channel and p-Channel JFET, JFET Characteristics, JFET Parameters, FET Amplifications and Switching, MOSFETs: Enhancement MOSFET, Depletion_Enhancement MOSFET, Comparison of p-channel and n-channel FETs, Introduction to CMOS.

Unit III: Number System (Hours: 6)
Binary Number System, Signed and unsigned Number, Octal Number System, Hexadecimal Number System, Conversions between Number Systems, r's and (r-1)'s Complements Representation, Subtraction using 1's and 2's Complements, BCD, Gray Code, Excess 3 Code and Alpha numeric codes.

Unit IV: Minimization Techniques (Hours: 7)
Logic Gates, Boolean Algebra, Logic Operation, Axioms and Laws of Boolean Algebra, Reducing Boolean Expression, Boolean Functions and their representation, SOP Form, POS Form, Karnaugh Map (up to 5 variable), Limitation of Karnaugh Map, Quine- McCluskey Minimization Technique (up to 5 variable).

Unit V: Combinational Circuits (Hours: 7)
Introduction, Design Procedure, Adders, Subtractors, Binary Parallel Adder, 4 Bit Parallel Subtractor, Look-ahead-carry Adder, BCD adder, BCD Subtractor, Multiplexer, De-multiplexer, Decoder, Encoder, Comparator, Parity bit Generator/Checkers, Boolean Expression Implementation using these ICs.

Unit VI: Sequential Circuits (Hours: 6)
Flip-flops: S-R, J-K, Master slave J-K, D-type, T-type, Flip flop Excitation Table, Conversion of Flip Flops, Registers: SISO, SIPO, PISO, PIPO, Universal Shift Register. Counters: Asynchronous and Synchronous counter, Up/Down counter, MOD-N counter, Ring counter, Johnson counter.

Text Books:

1. David A. Bell: "Electronic Devices and Circuits", 5e , Oxford University Press.
2. Jain R.P. "Modern Digital Electronics", 3e, TMH.

Reference Books:

1. Millman & Halkies: "Electronic Devices & Circuits", 2e, McGraw Hill.
2. Sedra& Smith: "Microelectronics Circuits", 5e, Oxford University Press.
3. Anand Kumar: "Switching Theory and Logic Design", 3e, PHI Learning Private Limited
4. Wakerly, "Digital Design: Principles and Practices", 3 e, Pearson Education, 2004.

3KS06 OBJECT ORIENTED PROGRAMMING - LAB

Course Pre-requisite: Basic Computer Programming

Course Objectives: Design, implement, test, and debug simple programs in an object-oriented programming language.

1. To develop the knowledge of object-oriented paradigm in the Java programming language.
2. To evaluate classical problems using java programming.
3. To develop software development skills using java programming for real world applications.

Course Outcomes : On completion of the course, the students will be able to

1. Design, implement, test, and debug simple programs in an object-oriented programming language.
2. Interpret the basics of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism
3. Build applications in Java by applying concepts like interfaces, packages and exception handling.
4. Make use of Java concepts like API, Applets, AWT.

List of Experiments:

This is a sample list of Experiments; **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Introduction to Object Oriented Programming and installation of JDK. Write a program to print a message "Hello World..."
2. Develop a program to explain use of Operators in java.
3. Develop a Program to study and implement Looping Statements belonging to Java**.**
4. Develop a Program to study and implement Selection Statements belonging to Java**.**
5. Develop a program to study and implement some Pyramid.
6. Develop a program to demonstrate the concept of Class, Method and Object.
7. Develop a program to study and implement the concept of Method Overloading.
8. Develop a program to study and implement concept of Constructor in Java.
9. Develop a program to study and implement concept of Constructor Overloading in Java.
10. Develop a program to study and implement the Array in Java.

11. Develop a Program on various ways to accept data through keyboard(Command Line Argument)
12. Develop a program to study and implement the concept of Inheritance.
13. Develop a program to study and implement the concept of Method Overriding.
14. Develop a program to study and implement the Abstract Class.
15. Develop a program to study and implement the concept of Interface in Java.
16. Develop a program to study and implement Exception Handling Mechanism in Java.
17. Develop a program to study and implement Java I/O.
18. Develop a program to study and implement simple Applet in java.
19. Develop a program on Applet to demonstrate Graphics, Font and Color class.
20. Develop a Program on passing parameters to applets
21. Develop a Program to create GUI application without event handling using AWT controls
22. Develop a Program to create GUI application with event handling using AWT controls
23. Develop a program on Multithreading
24. Develop a Program to create GUI application with event handling using Swing controls
25. Mini Project based on content of the syllabus. (Group of 2-3 students)

3KS07 DATA STRUCTURE - LAB

Course Pre-requisite: Basics of programming Language & Logic Building Skills

Course Objectives:

1. To understand the linear and nonlinear data Structures and its memory representations.
2. To perform different operations on data structures such as insertion, deletion, searching and traversing.
3. To understand various data searching and sorting methods with its complexity.
4. To introduce various techniques for representation of the data in the real world.

Course Outcomes : On completion of the course, the students will be able to

1. Apply various linear and nonlinear data structure.
2. Demonstrate operations like insertion, deletion, searching and traversing on various data structures
3. Examine the usage of various structures in approaching the problem solution.
4. Choose appropriate data structure for specified problem domain

List of Experiments:

This is a sample list of Experiments; **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Write a program to find out largest number from the array and also find it's location.
2. Write a program to traverse an array and find the sum and average of data elements from an array.
3. Write a Program to a) insert an element in an array b)delete an element from an array.
4. To study and execute the Linear search method
5. To study and execute the Binary Search method
6. To study and execute the Pattern matching Algorithms(Slow and Fast)
7. To study and execute Bubble sort method.
8. To study and implement various operations on singly linked list
    (a) Traversing the linked list.
    (b) Insert a node at the front of the linked list.
    (c) Delete a last node of the linked list.
    (d) Searching a Linked list.
9. To study and implement following operations on the doubly linked list.
    (a) Insert a node at the front of the linked list.
    (b) Insert a node at the end of the linked list.
    (c) Delete a last node of the linked list.
    (d) Delete a node before specified position.
10. To study and implement following operations on the circular linked list.
    (a) Insert a node at the end of the linked list.
    (b) Insert a node before specified position.
    (c) Delete a first node of the linked list.
    (d) Delete a node after specified position.
11. Understand the stack structure and execute the push, pop operation on it.
12. Understand the Queue structure and execute the insertion, deletion operation on it.
13. Formulate and demonstrate Transforming Infix Expressions to Postfix Expression using Stack.
14. Formulate and demonstrate the Evaluation of Postfix Expression using Stack.
15. To study and execute Quick sort method.
16. Understand the Tree structure and implement the Pre-order, In-order, post-order traversingoperations on it.
17. Understand the concept of Recursion and write a program to calculate factorial of a numberusing Recursion.
18. Understand the Heap sort and implement it on given data.
19. Understand the Insertion sort and implement it on given data.

20. Understand the Selection sort and implement it on given data.
21. To study and execute Merge sort method.
22. To study and execute Radix sort method.
23. Write a Program to implement the concept of BFS algorithm.
24. Write a Program to implement the concept of DFS algorithm.
25. To study and execute Josephus problem.

3KS08 ANALOG & DIGITAL ELECTRONICS - LAB

Course Pre-requisite: Students should have the knowledge of Basic Physics.

Course Objectives:

1. To impart the concepts of analog and digital electronics practically.
2. To provide students basic experimental experiences in the operation of semiconductor device and Digital ICs.
3. To learn the operation of various logic gates and their implementation using digital IC's.
4. To learn the realization of various combinational and sequential circuits.

Course Outcomes : After successfully completing the lab, the students will be able to

1. Apply practically the concepts of analog and digital electronics.
2. Explain the operation and characteristics of semiconductor devices.
3. Illustrate the operation of various logic gates and their implementation using digital IC's.
4. Design and implement various combinational logic circuits.
5. Design and implement various sequential logic circuits

List of Experiments:

This is a sample list of Experiments; **minimum 10 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. To study V-I characteristics of a PN Junction diode in Forward and Reverse bias.
2. To Sketch and Study the input and output characteristics of transistor connected in Common Emitter (CE) configuration..
3. To Sketch and Study the input and output characteristics of transistor connected in Common Base (CB) configuration
4. To Sketch and Study the input and output characteristics of transistor connected in Common Collector (CC) configuration.
5. To plot static characteristics of FET & calculate its parameters g_m, r_d and μ.
6. To implement Logic gates using TTL ICs (7400, 7402, 7404, 7408, 7410, 7411, 7420, 7427, 7432, 7486).
7. Study and verify the truth table of half adder and full adder using logic gates.
8. Study and verify the truth table of half subtractor and full subtractor using logic gates
9. To compare two 4 bits number and verify the output using 4-bit comparator IC 7485.
10. Implementation of 4×1 multiplexer using logic gates.
11. Implementation and verification of Demultiplexer and Encoder using logic gates.
12. Implementation of 4bit parallel adder using 7483 IC.
13. Design and verify the 4 bit synchronous counter.
14. Design and verify the 4 bit asynchronous counter.
15. Verification of truth table of SR, JK, T and D Flip Flops.

List of Experiments beyond syllabus:

1. Design and Implementation of Op-amp as an inverting amplifier.
2. Design and Implementation of Op-amp as a non-inverting amplifier.
3. To design and find frequency of A stable multi-vibrator using IC 555.

3KS09 C SKILL - LAB - I

Course Prerequisite: Basic knowledge of any Programming Language

Course Objectives:

1. To be able to program design with functions using Python.
2. To understand data and information processing techniques.
3. To understand to Design a program to solve the problems.
4. To be able to access database using python programming.
5. To be able to design web applications using python programming.

Course Outcomes : On completion of the course, the students will be able to

1. Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python
2. Interpret different Decision Making statements, Functions, Object oriented programming in Python
3. Summarize different File handling operations
4. Explain how to design GUI Applications in Python and evaluate different database operations
5. Develop applications using Django framework or Flask

List of Experiments:

This is a sample list of Experiments, **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Write python program to store data in list and then try to print them.
2. Write python program to print list of numbers using range and for loop
3. Write python program to store strings in list and then print them.
4. Write python program in which an function is defined and calling that function prints Hello World.
5. Write a python script to print the current date in the following format "Sun May 29 02:26:23 IST 2017"
6. Write a program to create, append, and remove lists in python.
7. Write a program to create, concatenate and print a string and accessing sub-string from a given string.
8. Write a program to demonstrate working with tuples in python.
9. Write a program to demonstrate working with dictionaries in python.
10. Write a python program to find largest of three numbers.
11. Write python program in which an function(with single string parameter) is defined and calling that function prints the string parameters given to function.
12. Write python program in which an class is define, then create object of that class and call simple print function define in class.
13. Write a Python script that prints prime numbers less than 20.
14. Write a python program to find factorial of a number using Recursion.
15. Write a python program to define a module to find Fibonacci Numbers and import the module to another program.
16. Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first file should be input and written to the second file.
17. Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order.
18. Write a Python class to convert an integer to a roman numeral.
19. Write a Python class to implement pow(x, n)
20. Write a Python class to reverse a string word by word.
21. Accessing and working with databases using Python.
22. Create data frame from .csv files and operations on it.
23. Plotting various graphs using Python.
24. Developing basic GUI using Python.
25. Developing web applications using Django framework or Flask

Reference Books :

1. "Core Python Programming", R. NageswaraRao, dreamtech press.
2. "Python Programming A Modular Approach With Graphics, Database, Mobile and WebApplications", SheetalTaneja, Naveen Kumar, Pearson.
3. Python Web Development with Django By Jeff Forcier, Paul Bissex, Wesley J Chun, Addison-Wesley Professional.
4. Kenneth A. Lambert, The Fundamentals of Python: First Programs, 2011, Cengage Learning
5. Allen B. Downey , " Think Python: How to Think Like a Computer Scientist", Second Edition, Shroff/O'Reilly Publishers
6. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
7. Michael T. Goodrich, Roberto Tamassia, Michael H. Goldwasser, "Data Structures and Algorithms in Python", Wiley
8. Introduction to Computation and Programming using Python, by John Guttag, PHI Publisher, Revised and Expanded version (Referred by MIT)

****

SEMESTER - IV

4KS01 ARTIFICIAL INTELLIGENCE

Course Pre-requisite: Basic concepts of Data Structures, Algorithms, Programming

Course Objectives:

1. To present an overview of Artificial Intelligence (AI) principles and approaches.
2. To understand the historical evolution of Artificial Intelligence.
3. To learn various searching techniques and identify to address a particular problem).

Course Outcomes : On completion of the course, the students will be able to

1. Explain concepts of Artificial Intelligence and different types of intelligent agents and their architecture.
2. Formulate problems as state space search problem & efficiently solve them.
3. Summarize the various searching techniques, constraint satisfaction problem and example problems - game playing techniques.

4. Apply AI techniques in applications which involve perception, reasoning and learning.
5. Compare the importance of knowledge, types of knowledge, issues related to knowledge acquisition and representation.

Unit I: Introduction to AI (Hours: 7)

Introduction : What Is AI?, The Foundations of Artificial Intelligence, The History of Artificial Intelligence, The State of the Art, Risks and Benefits of AI,

Intelligent Agents: Agents and Environments, Good Behavior: The Concept of Rationality, The Nature of Environments, The Structure of Agents

Unit II: Problem Solving Through AI (Hours: 7)

Introduction, Representation the AI Problems, Production System, Algorithm of Problem Solving, Examples of AI Problems, Nature of AI Problems

Unit III: Uninformed Search Strategies (Hours: 6)

Problem-Solving Agents, Example Problems, Search Algorithms, **Uninformed Search Strategies**: Breadth-First Search, Uniform-Cost Search, Depth First Search, Bidirectional Search, Depth Limited Search, Iterative Deepening Depth-First Search

Unit IV: Informed Search Strategies (Hours: 7)

Basic Concept of Heuristic Search and Knowledge, Designing of Heuristic Function, **Heuristic Search Strategies:** Generate-And-Test, Best-First Search, Problem Reduction, Hill Climbing, Constraint Satisfaction, Means-Ends-Analysis

Unit V: Adversarial Search & Games (Hours: 7)

Game Theory, Optimal Decisions in Games, Mini-Max Search, Alpha Beta Pruning, Additional Refinements, Monte Carlo Tree Search, Stochastic Games, Partially Observable Games, Limitations of Game Search Algorithms

Unit VI: Introduction to Knowledge (Hours: 6)

Introduction, Types of Knowledge, Knowledge Representation, Knowledge Storage, Knowledge Acquisition, Knowledge Organization and Management, Basic Concepts of Knowledge Engineering

Text Books:

1. Artificial Intelligence: A Modern Approach by Stuart Russell & Peter Norvig (Pearson - 4th Ed.)
2. Artificial Intelligence by Ela Kumar (IK International Publishing House Pvt. Ltd.)

Reference Books:

1. Artificial Intelligence by Elaine Rich and Kevin Knight (Tata McGraw Hill - 3rd Ed.)
2. A First Course in Artificial Intelligence by Deepak Khemani (Tata McGraw Hill - 1st Ed.)
3. Artificial Intelligence and Expert Systems by Patterson (PHI)
4. Introduction to Artificial Intelligence by RajendraAkerkar (PHI Learning Pvt. Ltd.)

4KS02 DATA COMMUNICATION AND NETWORKING

Course Prerequisite: Computer and Data Communication Requirements

Course Objectives:

1. To understand the building blocks of digital communication system.
2. To prepare mathematical background for communication signal analysis.
3. To understand and analyze the signal flow in a digital communication system
4. To analyze error performance of a digital communication system in presence of noise and other interferences.
5. To evaluate the errors using various error detection & correction techniques.
6. To understand network based protocols in data communication and networking.

Course Outcomes : On completion of the course, the students will be able to

1. Describe data communication Components, Networks, Protocols and various topology based network architecture
2. Design and Test different encoding and modulating techniques to change digital –to- digital conversion, analog-to-digital conversion, digital to analog conversion, analog to analog conversion,
3. Explain the various multiplexing methods and evaluate the different error detection & correction techniques.
4. Illustrate and realize the data link control and data link protocols.
5. Describe and demonstrate the various Local area networks and the IEEE standards.

Unit I: Introduction to Data Communication (Hours: 7)

Introduction: Data Communication, Components, Networks, Network types: Local Area Network,Wide Area Network, Switching, The Internet, Accessing the Internet, Standards and Administration: Internet Standards, Internet Administration, Network Models:TCP/IP Protocol Suite,TheOSI Model, Transmission media: Introduction, Guided media & Unguided media-Wireless. Switching: Introduction, Circuit Switched Networks, Packet Switching.

Unit II: Data link Layer (Hours: 6)

Data Link Layer: Introduction, Nodes & Links, Services , Two categories of link, Two sub-layers, Error detection and correction: Introduction, Block Coding, Cyclic codes, Checksum, Forward Error Correction, Data link control: DLC services, Data-Link Layer Protocol, HDLC, Point-To-Point Protocol, Media Access Control (MAC): Random Access, Controlled Access, Channelization.

Unit III: Network Layer (Hours: 7)

Introduction to Network layer Network Layer Services: Packetizing, Routing and Forwarding, Other Services Packet Switching: Datagram Approach: Connectionless Service, Virtual-Circuit Approach: Connection-Oriented Service , Network Layer performance: Delay, Throughput, Packet Loss, Congestion Control, IPV4 Address: Address Space, Classful Addressing, Classless Addressing, Dynamic Host Configuration Protocol (DHCP), Network Address Resolution (NAT), Forwarding of IP packets: Forwarding Based on Destination Address, Forwarding Based on Label, Routers as Packet Switches

Unit IV: Network Layer Protocol (Hours: 7)

Network Layer Protocols: Internet Protocol (IP),Datagram Format, Fragmentation, Security of IPv4 Datagrams,ICMPV4: Messages, Debugging Tools, ICMP Checksum,Mobile IP: Addressing, Agents, Three Phases, Inefficiency in Mobile IP,Routing algorithms: Distance Vector routing, Link State Routing, IPV6 Addressing: Representation, Address Space, Address Space Allocation, Auto configuration, Renumbering, Transition from IPV4 to IPV6: Strategies, Use of IP Addresses

Unit V: Transport Layer (Hours: 6)

Introduction to Transport layer: Introduction, Transport-Layer Services, Connectionless and Connection-Oriented Protocols, Transport-Layer Protocols: Simple Protocol, Stop-and-Wait Protocol, Go-Back-N Protocol (GBN), Selective-Repeat Protocol, Bidirectional Protocols: Piggy backing, User Datagram Protocols: User Datagram, UDP Services, UDP Applications, Transmission Control Protocol: TCP Services, TCP Features , Segment, A TCP Connection, State Transition Diagram, Windows in TCP, Flow Control, Error Control, TCP Congestion Control, TCP Timers, Options, SCTP: SCTP Services, SCTP Features

Unit VI: Application layer (Hours: 7)

Introduction to Application layer: Providing Services, Application-Layer Paradigms, Client-Server Programming: Application Programming Interface, Using Services of the Transport Layer, Iterative Communication Using UDP, Iterative Communication Using TCP, Concurrent Communication, World wide web and HTTP: World Wide Web, Hyper-Text Transfer Protocol (HTTP) FTP: Two Connections, Control Connection, Data Connection, Security for FTP, Electronic Mail: Architecture, Web-Based Mail, E-Mail Security, Domain Name System (DNS):Name Space, DNS in the Internet, Resolution, Caching, Resource Records, DNS Messages, Registrars, Security of DNS, Network Management: Introduction. Configuration Management, Fault Management, Performance Management, Security Management, Accounting Management, SNMP: Managers and Agents, Management Components, ASN.1: Language Basics, Data Types, Encoding.

Text Book: Behrouz A. Forouzan: Data Communication and Networking, (5/e) (TMH).

Reference Books:

1. William Stallings: Data & Computer Communications, 6/e, Pearson Education
2. William L. Schweber : Data Communication, McGraw Hill
3. J.Freey : Computer Communication & Networks, AEW Press
4. D. Corner: Computer Networks & Internet, Pearson Education.

4KS03 OPERATING SYSTEM

Course Pre-requisite: Discrete Structures, Data Structure, Any programming Language

Course Objectives:

1. To make students aware of the kernel and shell structure of the operating systems.
2. To make students aware of the purpose, structure and functions of operating systems
3. To equip students with understanding of the various scheduling algorithms in OS.
4. To make students aware of understanding of memory management in different OS.

Course Outcomes : On completion of the course, the students will be able to

1. Explain memory management issues like external fragmentation, internal fragmentation.
2. Illustrate multithreading and its significance.
3. List various protection and security mechanisms of OS.
4. Analyze and solve the scheduling algorithms.
5. Analyze the deadlock situation and resolve it.
6. Compare various types of operating systems

Unit I: Introduction to OS (Hours: 7)
Introduction: Operating System definition, OS Evolution, Components and Services, Process Concept, Process Scheduling, Operations on Processes, Cooperating Processes, Interprocess Communication, Threads Overview, Multithreading Models, Threading Issues, Java Threads

Unit II: Process Scheduling (Hours: 7)
Foundation and Scheduling objectives, Types of Schedulers, Scheduling criteria: CPU utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling algorithms: Pre-emptive and Non pre-emptive, FCFS, SJF, RR, Priority, Multilevel Queue, Multilevel Feedback Queue Scheduling

Unit III: Process Synchronization (Hours: 6)
Process Synchronization Basics: The Critical-Section Problem, Synchronization Hardware, Semaphores, Monitors, Deadlocks: Definition & Characterization, Deadlocks Prevention, Avoidance, Detection and Recovery from Deadlock

Unit IV: Memory Management (Hours: 7)
Memory Management Background, Swapping, Contiguous Memory Allocation Schemes, Paging, Segmentation, Virtual Memory Management: Background, Demand paging scheme, Process Creation, Page Replacement Policies, Allocation of Frames, Thrashing

Unit V: Unit Title: File System (Hours: 7)
File-System Interface; Directory Structure, File-System Mounting, File Sharing &Protection, File-System Structure, File-System Implementation, Directory Implementation, Allocation Methods, Free-Space Management. File Recovery

Unit VI: Unit Title: I/O System (Hours:6)
I/O Systems : Overview, I/O Hardware, Application I/O Interface, Kernel I/O Subsystem, Transforming I/O to Hardware Operations , Disk Scheduling, Disk Management, Swap-Space Management, RAID Structure.

Text Book : Avi Silberschatz, P.B.Galvin, G.Gagne: "Operating System Concepts" (9/e) John-Wiley & Sons.

Reference Books:

1. A.S.Tanenbaum "Modern Operating Systems" Pearson Education.
2. William Stallings "Operating Systems" Prentice-Hall.
3. D. M. Dhamdhere "Operating Systems" Tata McGraw-Hill.
4. P. Balkrishna Prasad: "Operating Systems" Scitech Publications (I) Pvt. Ltd.

4KS04 MICROPROCESSOR & ASSEMBLY LANGUAGE PROGRAMMING

Course Pre-requisite: Computer Programming and Computer Fundamentals

Course Objectives:

1. To explore 8086 microprocessor and its architecture.
2. To introduce interfacing techniques of 8086 microprocessor.
3. To introduce basics of Internet of Things

Course Outcomes : On completion of the course, the students will be able to

1. Describe 8086 microprocessor and its architecture; also understand instruction processing during the fetch-decode-execute cycle.
2. Design and Test assembly language programs using 8086 microprocessor instruction set.
3. Demonstrate the implementation of standard programming constructs, including control structures and functions, in assembly language.
4. Illustrate and realize the Interfacing of memory & various I/O devices with 8086 microprocessor.
5. Explain the basic concepts of Internet of Things

Unit I: 8086 Architecture (Hours: 7)
8086 architecture and pin configuration, Software model of 8086 microprocessor. Memory addresses space and data organization. Data types. Segment registers, memory segmentation. IP & Data registers, Pointer, Index registers. Memory addresses generation.

Unit II: 8086 Instruction Set (Hours: 7)
8086 Instruction set overview, addressing modes. 8086 instruction formats. 8086 programming: Integer instructions and computations: Data transfer instructions, Arithmetic instructions and their use in 8086 programming.

Unit III: 8086 Instruction Set (Hours: 6)
8086 programming: logical instructions. Shift and rotate instructions and their use in 8086 programming. 8086 flag register and Flag control instructions, compare instruction, control flow and jump instructions, Loops & loop handling instructions. 8086 programming using these instructions.

Unit IV: Subroutines& Macros (Hours: 7)
The 8086 stack segment and stack related instructions. 8086 I/O Address space.Subroutines and related instructions, Parameter passing, Concept of Macros, Status saving on stack.Concept of recursion at assembly program level.8086 Programming using subroutines, recursion and macros.

Unit V: 8086 Interrupt (Hours: 7)
8086 Interrupts types, priority and instructions. Interrupt vector table, External hardware-interrupt interface signals & interrupts sequence. Software interrupts. Non-maskable interrupts. 8086 microprocessor interrupt programming.

Unit VI: Internet of Things (IoT) (Hours: 6)
Internet of things: An overview, IoT conceptual framework, IoT Architectural View, Technology behind IoT, Sources of IoT, M2M communication, Examples of IoT.

Text Book:
1. A. K. Ray & K. M. Bhurchandi: Advanced Microprocessors & Peripherals, Third Edition (TMH).
2. Raj Kamal: Internet of Things, Architecture and Design Principals, McGraw Hill Education (India) Private Limited

Reference Books:
1. W. A. Triebel& Avatar Singh: The 8088/8086 Microprocessors (4e) (PHI /Pearson Education)
2. Liu & Gibson: The 8088/8086 Microprocessor Architecture Programming and Interface (6/e) (PHI)

4KS05 THEORY OF COMPUTATION

Course Pre-requisite: Discrete Mathematics, Data Structures

Course Objectives:
1. To understand different automata theory and its operation.
2. To understand mathematical expressions for the formal languages
3. To study computing machines and comparing different types of computational models
4. To understand the fundamentals of problem decidability and Un-Decidability

Course Outcomes: On completion of the course, the students will be able to
1. To construct finite state machines to solve problems in computing.
2. To write regular expressions for the formal languages.
3. To construct and apply well defined rules for parsing techniques in compiler
4. To construct and analyze Push Down, Turing Machine for formal languages
5. To express the understanding of the Chomsky Hierarchy.
6. To express the understanding of the decidability and un-decidability problems.

Unit I: Finite State Machines (Hours: 8)
Alphabet, String, Formal and Natural Language, Operations, Definition and Design DFA (Deterministic Finite Automata), NFA (Non Deterministic Finite Automata), Equivalence of NFA and DFA: Conversion of NFA into DFA, Conversion of NFA with epsilon moves to NFA, Minimization Of DFA, Definition and Construction of Moore and Mealy Machines, Inter-conversion between Moore and Mealy Machines. Minimization of Finite Automata. (Construction of Minimum Automaton)

Unit II: Regular Expression and Regular Grammar (Hours: 8)
Definition and Identities of Regular Expressions, Construction of Regular Expression of the given Language, Construction of Language from the RE, Conversion of FA to RE using Arden's Theorem, Inter-conversion RE to FA, Pumping Lemma for RL, Closure properties of RLs(proofs not required), Regular grammar, Equivalence of RG (RLG and LLG) and FA.

Unit III: Context Free Grammar and Languages (Hours: 8)
Introduction, Formal Definition of Grammar, Notations, Derivation Process: Leftmost Derivation, Rightmost Derivation, Derivation Trees, Construction of Context-Free Grammars and Languages, Pumping Lemma for CFL, Simplification of CFG, Normal Forms (CNF and GNF), Chomsky Hierarchy.

Unit IV: Pushdown Automata (Hours: 8)
Introduction and Definition of PDA, Construction of PDA, Acceptance of CFL, Equivalence of CFL and PDA: Inter-conversion , Introduction of DCFL and DPDA, Enumeration of properties of CFL, Context Sensitive Language, Linear Bounded Automata.

Unit V: Turing Machines (Hours: 8)
Formal definition of a Turing Machine, Design of TM, Computable Functions, Church's hypothesis, Counter machine, Variants of Turing Machines: Multi-tape Turing machines, Universal Turing Machine.

Unit VI: Decidability and Un-Decidability (Hours: 8)
Decidability of Problems, Halting Problem of TM, Un-Decidability: Recursive enumerable language, Properties of recursive & non-recursive enumerable languages, Post Correspondence Problem, Introduction to Recursive Function Theory

Text Books:

1. Hopcraft H.E. & Ullman J: Introduction to Automata Theory, Languages and Computation
2. Peter Linz: An Introduction to Formal Languages and Automata

Reference Books:

1. Rajesh K. Shukla: Theory of Computation, CENGAGE Learning, 2009.
2. K V N Sunitha and N Kalyani: Formal Languages and Automata Theory, McGraw Hill,2010
3. Lewis H.P. and Papadimition C.H.: Elements of Theory of Computation
4. Mishra &Chandrashekharan: Theory of Computation
5. C.K.Nagpal: Formal Languages and Automata Theory, Oxford University Press, 2011.
6. VivekKulkarni : Theory of Computation, OUP India, 2013.

4KS06 DATA COMMUNICATION & NETWORKING LAB

Course Pre-requisite: Computer and Data Communication Requirements

Course Objectives:

1. To understand the working principle of various communication protocols
2. To understand and analyze the signal flow in a digital communication system.
3. To analyze error performance of a digital communication system in presence of noise and other interferences.
4. To evaluate the errors using various error detection & correction techniques.
5. To understand network based protocols in data communication and networking.

Course Outcomes : On completion of the course, the students will be able to

1. Analyze performance of various communication protocols
2. Implement Configure various network protocols.
3. Compare IP Address classes of networks

List of Experiments:

This is a sample list of Experiments; **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. To study various LAN topologies and their creation using network devices, cables and computers. .
2. To connect the computers in Local Area Network.
3. Familiarization with Networking Components and devices: LAN Adapters, Hubs, Switches, Routers etc.
4. Write a program of bit stuffing used by Data Link Layer
5. Write a program to implement CRC(Cyclic Redundancy Check)
6. Write a program to implement Checksum
7. Write a program to implement Sliding window
8. Configure Internet connection and use IP-Config, PING / Tracer and Net stat utilities to debug the network issues.
9. Configuration of TCP/IP Protocols in Windows and Linux.
10. Transfer files between systems in LAN using FTP Configuration, install Print server in a LAN and share the printer in a network.
11. Write a C Program to determine if the IP Address is in Class A, B, C, D, or E
12. Write a C Program to translate Dotted Decimal IP Address into 32 Bit Address.
13. Configure Host IP, Subnet Mask and Default Gateway in a System in LAN(TCP/IP Configuration)

4KS07 OPERATING SYSTEM - LAB

Course Pre-requisite: Basic computer programming

Course Objectives:

1. To make students aware of the kernel and shell structure of the operating systems.
2. To make students aware of the purpose, structure and functions of operating systems
3. To equip students with understanding of the various scheduling algorithms in OS.
4. To make students aware of understanding of memory management in different OS.

Course Outcomes : On completion of the course, the students will be able to

1. Explain memory management issues like external fragmentation, internal fragmentation.
2. Illustrate multithreading and its significance.
3. List various protection and security mechanisms of OS.
4. Analyze and solve the scheduling algorithms.
5. Analyze the deadlock situation and resolve it.
6. Compare various types of operating systems

List of Experiments:

This is a sample list of Experiments, **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. To study Linux Operating System along with its installation.
2. To Study and Execute basic file commands and process related open source Ubuntu commands
   a. Commands to view all executing, block and suspended process.
   b. Command to check and change the priority of process CPU utilization for executing processes.
   c. Commands to check for child process, sub-processes, process tree, abort & end process and all other basics commands related to processes
3. Write a program for multithreading using C.
4. To simulate First Come First Serve & Shortest Job First process scheduling algorithm
5. To simulate Shortest Job First process scheduling algorithm
6. To simulate Preemptive Shortest Job First process scheduling algorithm
7. To implement Round Robin Process scheduling Algorithm
8. To implement Priority Based Process scheduling Algorithm
9. To implement and analyze multi-level queue scheduling algorithm
10. To implement the following file allocation strategies.
11. To simulate paging technique of memory management.
12. To implement theFIFO page replacement policy
13. To implement the LRU page replacement policy
14. To implement the optimalpage replacement policy
15. To simulate producer-consumer problem using semaphores.
16. To implement Dining-Philosophers problem to deal with concurrency control mechanism.
17. To implement contiguous memory allocation strategies to detect fragmentation using: First Fit, Best Fit and Worst Fit.
18. To implement FCFS Disk Scheduling algorithm
19. To implement SCAN Disk Scheduling algorithm
20. To implement C-SCAN Disk Scheduling algorithm
21. To simulate Bankers algorithm for deadlock avoidance
22. To implement following memory management techniques
    Implement MVT and MFT where memory block size is 100 for 5 processes. Enter no. of blocks for each process and calculate internal fragmentation.
23. To simulate LFU page replacement algorithms
24. To simulate the Single level directory file organization techniques.
25. To Simulate bankers algorithm for Dead Lock Avoidance (Banker‘s Algorithm)

4KS08 MICROPROCESSOR & ASSEMBLY LANG. PROG. - LAB

Course Pre-requisite: Computer Programming, Number System

Course Objectives: In this lab student will learn about’ Microprocessor and Interfacing’ in regards to digital computer, microprocessor architecture, programming with 8086 microprocessor and different peripherals**.**

Course Outcomes On completion of the course, the students will be able to

1. Analyze the internal workings of the microprocessor
2. Design and develop programs in Assembly Language Programming
3. Describe 8086 microprocessor and its architecture; also understand instruction processing during the fetch-decode-execute cycle.
4. Design and Test assembly language programs using 8086 microprocessor instruction set.
5. Demonstrate the implementation of standard programming constructs, including control structures and functions, in assembly language
6. Illustrate and realize the Interfacing of memory & various I/O devices with 8086 microprocessor.

List of Experiments:

This is a sample list of Experiments; **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Installation and Introduction of TASM Assembler.
2. Write a program for addition of two 8-bits numbers and two 16-bits numbers.
3. Write a program for subtraction of two 8-bits numbers and two 16-bits numbers.
4. Write a program for multiplication of two 8-bits numbers.
5. Write a program for division of two 8-bits numbers
6. Write a program to check whether a given number is even or odd.
7. Write a program to demonstrate Logical Group and Shift Rotate Instructions.
8. Write a program to check whether a given number is positive or negative.
9. Write a program to find greatest of two 8-bits signed &unsigned numbers.
10. Block Transfer Program
11. Write a program to find Factorial of a number using loop instruction.

12. Write a program to find cube of a given number using Subroutine.
13. Write a program to find square of a given number using Subroutine.
14. Write a program to find square of a given number using Macro.
15. Write a program to find whether the string is palindrome or not.
16. To convert BCD Number Program
17. Write a program to perform Reverse of the String
18. Write a program to transfer 10-bytes from one memory bank to another memory bank.
19. Program for sorting an array for 8086 microprocessor.
20. To write an assembly language program to arrange the given numbers in descending order.
21. Program for searching for a number/character in a string for 8086 microprocessor.

4KS09 C-SKILL-LAB II

Course Pre-requisite: Basic knowledge of scripting language, Programming language.Basic understanding of Electronic concepts.

Course Objectives: To develop an ability to design and implement static and dynamic website and to develop embedded systems with the help of Raspberry Pi/Ardino.

Course Outcomes : On completion of the course, a student will be able to

1. Develop client server program and web applications
2. Make use of project-based experience for web application development.
3. Create embedded systems using Raspberry Pi/Ardino

List of Experiments:

This is a sample list of experiments, **minimum 12 experiments** are to be performed covering the entire syllabus. At least two experiments should be beyond syllabi based on learning of syllabi (Apply)

1. Introduction to PHP and configure it to work with Apache Web Server.
2. Design web pages for your college containing a description of the courses, departments, faculties, library etc, use href, list tags.
3. Create your class timetable using table tag.
4. Create user Student feedback form (use textbox, text area , checkbox, radio button, select box etc.)
5. Create your resume using HTML tags also experiment with colors, text , link , size and also other tags you studied.
6. Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).
7. Develop a JavaScript to display today's date.
8. Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.
9. Write an HTML page that contains a selection box with a list of 5 countries. When the user selects a country, its capital should be printed next to the list. Add CSS to customize the properties of the font of the capital (color, bold and font size).
10. Write a PHP program to keep track of the number of visitors visiting the web page and to display this count of visitors, with proper headings.
11. Write a PHP program to display a digital clock which displays the current time of the server.
12. Write the PHP programs to do the following: a. Implement simple calculator operations. b. Find the transpose of a matrix.
13. Write a PHP program to sort the student records which are stored in the database using selection sort.
14. Study and Install IDE of Arduino and different types of Arduino.
15. Write program using Arduino IDE for Blink LED.
16. Write Program for RGB LED using Arduino.
17. Study the Temperature sensor and write a Program for monitor temperature using Arduino.
18. Study and Implement RFID, NFC using Arduino. • Study and implement MQTT protocol using Arduino.
19. Study and Configure Raspberry Pi.
20. WAP for LED blink using Raspberry Pi.
21. Study and Implement Zigbee Protocol using Arduino / Raspberry Pi.
22. Create Smart Plugs with Arduino and Raspberry Pi.
23. Interfacing digital sensors with raspberry pi.
24. Creating a webpage to control I-O devices, Reading data from sensor and passing to web page.
25. Implement a program to access Analog sensor via wifi with HTML Web server.

SYLLABUS FOR BE ELECTRICAL ENGINEERING / (ELECTRICAL &ELECTRONICS ENGINEERING) / ELECTRICAL ENGINEERING (ELECTRONICS & POWER) SEMESTER PATTERN CHOICE BASED CREDIT GRADE SYSTEM

3EE01 /3 EP01 /3EX01 ENGINEERING MATHEMATICS - III

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Demonstrate the knowledge of differential equations and partial differential equations, applied to electrical engineering systems.
2. Apply Laplace transform to solve differential equations.
3. Demonstrate the use of Fourier Transform to connect the time domain and frequency domain.
4. Apply Z Transform to solve of various Linear Difference equations with constant coefficients.
5. Apply the knowledge of vector calculus to solve physical problems.
6. Demonstrate the basic concepts of probability and statistics.

SECTION-A

UNIT-I:

Ordinary Differential Equations: - Complete solution, Operator D, Rules for finding complementary function, the inverse operator, Rules for finding the particular integral, Method of variations of parameters, Cauchy's and Legendre's linear differential equations. Applications to electrical circuits. (7)

UNIT-II:

Laplace Transforms: definition, standard forms, properties of Laplace transform, inverse Laplace transform, Laplace transform of some basic functions, initial and final value theorem, convolution theorem, Laplace transform of Periodic Function, Impulse Function, Unit Step Function. Solution of linear differential equation using Laplace transform. (7)

UNIT-III:

a) Partial differential equation of first order and first degree of following type-

(i) f (p, q) = 0; (ii) f (p, q, z)=0; (iii) f (p, q, x, y) = 0; (iv) Pp + Qq =R (Lagrange's Form); (v) Clairaut form Z = px + qy + f(p, q)

b) Fourier transforms- Definition, standard forms, inverse Fourier transform Fourier sine and Fourier cosine transforms and integrals. (7)

SECTION-B

UNIT-IV:

a) Difference Equation:- solution of difference equations of first order, solution of difference equations of higher order with constant coefficient.

b) Z-transform: Definition, standard forms, Z-transform of impulse function, Unit step functions, Properties of Z- transforms (Linearity, shifting, multiplication by k, change of scale), initial and final values, inverse Z-transforms (by direct division and partial fraction), Solution of difference equation by Z-transforms. (7)

UNIT-V:

Vector Calculus: - Scalar and Vector point functions, Differentiation of vectors, Curves in space, Gradient of a scalar point function, Directional derivatives, Divergence and curl of a vector point function and their physical meaning, expansion formulae (without proof), Irrotational and Solenoidal vector fields, Line Integral, Stokes and Divergence Theorem. (7)

UNIT-VI:

Statistics & Probability: Axioms, conditional probability, Bay's theorem, mathematical expectations, probability distributions: Binomial, Poisson and Normal. (7)

Books Recommended:

1. Elements of Applied Mathematics by P. N. Wartikar and J. N. Wartikar
2. Advancing Engineering Mathematics by E. K. Kreyzig.
3. Advance Engineering Mathematics by B. S. Grewal
4. Integral Transforms by Goyal & Gupta.
5. Statistical Methods by S.G. Gupta

****

3EE02/3 EP02/3EX02 ELECTRICAL CIRCUIT ANALYSIS

Course Outcomes:

After completing this course studentwill be able to:

1. Analyze electric and magnetic circuits using basic circuital laws
2. Analyze the circuit using Network simplification theorems.
3. Solve circuit problems using concepts of electric network topology.
4. Evaluate transient response of different circuits using Laplace transform
5. Evaluate two-port network parameters and network functions

Unit I:

a] Terminal Element Relationships: V-I relationship for Dependent &Independent , Voltage and Current Sources., Source Transformations. Source Functions: unit impulse, unit step, unit ramp and interrelationship, sinusoidal input, generalized exponential input.

Magnetic Circuits: concept of self and mutual inductance, dot convention, coefficient of coupling, composite magnetic circuit, Analysis of series and parallel magnetic circuits.

b] Basic Nodal and mesh Analysis: Introduction, Nodal analysis, super node analysis, mesh analysis, super mesh analysis.

Unit II:

Network Theorems: Superposition theorem, Thevenin'stheorem, Norton's theorem, Maximum power transfer theorem, Reciprocity theorem, Millman's theorem, Substitution theorem, Compensation theorem, Tellegen's theorem

Unit III :

Graph Theory and Network Equation:-Graph of a network, Trees and loops, Tie-set and cut set matrix of a network, Network equilibrium equations, duality-network transformation.

Unit IV:

a] **Transformation of a Circuit into s-domain:** LaplaceTransformed equivalent of inductance, capacitance and mutual inductance, Impedance and admittance in the transform domain, Node Analysis and Mesh Analysis of the transformed circuit. Complete Solution ofLinear Differential Equations for Series RC, Parallel RC, Series RL, Parallel RL, Series RLC, Parallel RLC and Coupled Circuits-for step Inputs. Natural Response, Transient Response, Determination of initial conditions.

Unit V :

Two Port Networks: Two port networks: Open circuit impedance parameters, Short circuit admittance parameters, Transmission parameters, Hybrid parameters, Condition for reciprocity and symmetry of a two port network, Interrelationship between parameters, Interconnection of two port networks , Input impedance in terms of two port network parameters, Output impedance, Image impedance.

Unit VI :

Network functions: Ports and terminal pairs, Network functions, poles and zeros, Necessary conditions for driving point function, Necessary conditions for transfer function. Applications of network analysis in driving network functions, positive real functions, driving point and transfer impedance function.

Text Book: Network Analysis, M.E. Van Valkenburg, PHI, 2005.

Reference Books:

1. Circuits & Networks – Analysis, Design & Synthesis by M.S.Sukhija, T.K.Nagasarkar, OxfordUniversity Press, 2010.
2. Circuit and Network Analysis, SudhakarShyammohan, Tata Mc Graw Hill, 2005.
3. Network Analysis, P. Ramesh babu, SciTech Publications, Chennai, 2009.

3EE03/3 EP03/3EX03 ELECTRICAL MACHINE - I

Course Outcomes:

After Completing this course, students will be able to:

1. Explain the construction and working of DC Machines.
2. Illustrate the different Characteristics, types, their applications and parallel Operation of D.C. Generators.
3. Demonstrate the various characteristics, starting, speed control and braking operation on DC motors
4. Analyze the performance of DC machines by conducting the various tests on it.
5. Determine the parameters of equivalent circuits, performance parameters of single phase transformer and merits & demerits of autotransformer
6. Explain the construction, working, different connections, applications and testing of three phase transformer.

Unit I :
D.C. Machines: Construction, Principle of Operation, EMF Equation, Torque Equation. Armature winding – Lap, wave, single layer, double layer. Armature Reaction and commutation, method of improving commutation.

Unit II :
D.C. Generators: Types, Characteristics and Applications of D. C. Generators, Parallel Operation of D.C. Generators, Introduction to testing of D. C. Generators as per Indian standard.

Unit III :
D.C. Motors: Types, Characteristics & Modified Characteristics, Applications of D.C. Motors. Starting, Electric Braking, Speed Control of DC Motors. Losses, efficiency and testing of DC Motors.

Unit IV :
Single phase Transformer: Working Operation, EMF Equation, and separation of core losses in to its component. Equivalent Circuit, Parallel Operation. Open Circuit, Short Circuit & Sumpner's test on transformer as per Indian standard. Single phase Autotransformer: - construction, working, merits, demerits and its application.

Unit V :
Three Phase Transformer: Construction, Working, Types, connections, vector group connections, open delta Connection, OC, SC, Heat run test, load test, magnetic balance, vector group test on three phase transformer.

Unit VI :
Three Phase Transformer: Three-winding transformer, On load & Off load tap changers, Scott Connection, Power transformer and Distribution transformer. Waveforms of no load current & inrush current phenomenon.

Text Book:
Electrical Machines by D P Kothari & I J Nagrath Published by Tata McGraw-Hill Book Comp. New Delhi.

Reference Books:
1) C. Dawes: Electrical Engineering, Vol.I: Direct current (IV Edition), (McGraw Hill Book Company)
2) H. Cotton: Advance Electrical Technology, (Wheeler publication)
3) Indian Standard Guide for testing DC Machine. IS: 9320-1979, (Indian Standards Institution, New Delhi.)
4) Indian Standard Specification for safety transformer. IS: 1416-1972, (Indian Standards Institution, New Delhi.)

3EE04/3 EP04 – ENERGY RESOURCES AND GENERATION

Course Outcomes:
A student, on completion of this course, will be able to:
1. Explain the operation of Thermal, Hydro, Nuclear and Diesel power plants.
2. Summarize solar energy conversion, solar radiation measuring instruments, wind energy conversion and their applications.
3. Outline the principle and operation of fuel cells, ocean & tidal energy conversion, and other non-conventional energy resources.
4. Determine the various factorsand curves related to electrical load & generating plant.

Unit I:
Conventional and non conventional energy sources, Indian Energy Scenario.
Thermal and hydro power plant: Layout of Thermal power plant, Selection of site, working of various parts: Economizer, air preheater, condenser, cooling tower, ash &coal handling plant, advantages & disadvantages
Layout of Hydro power plant, classification of hydro power plant according to available head, nature of load, functions of different components and their working, mini and micro hydro-electric power generation, advantages & disadvantages.

Unit II :
Nuclear and Diesel power plant: nuclear fission and fusion, Layout of Nuclear power plant, Selection of site, Functions of different components of nuclear plant, types of nuclear reactors , advantages & disadvantages of different nuclear reactors, nuclear waste disposal., safety measures.
Layout of Diesel power plant, functions of different components of diesel plant, advantages & disadvantages.

Unit III :
Solar Energy and its measurement: Solar cell, array & module, Solar constants, solar radiation at earth's surface, Solar radiation geometry, solar radiation measurement, estimation of average solar radiation, solar radiation on tilted surface, principle of solar energy conversion in to heat, types of solar collectors, energy balance equation and collector efficiency.

Unit IV:
a]Fuel cells: Chemistry applied to fuel cells, principle and operation ,classification and types of fuel cells, performance characteristics of fuel cells, classification of fuel cell system.

b]Wind energy :Basic principle of wind energy conversion, wind data and energy estimation, selection of site ,basic components of wind energy conversion system ,classification of WEC systems ,generating system, applications of wind energy.

Unit V :
Ocean, Tidal & Other non-conventional energy resources: Ocean energy resources, ocean energy routes, ocean thermal energy conversion, basic principle of tidal power, components of tidal power plants, operation methods of utilization of tidal energy, estimation of power and energy in single and double basin tidal system,. Operating principles of energy from biomass, energy from biogas, geothermal energy, MHD power generation, energy from urban and rural waste.

Unit VI :
Load-Generation factors: connected load, maximum demand, demand factor, load factor, diversity factors, plant capacity and utilization factor, types of loads, load curve, chronological load curve, load duration curve, energy load curve, energy duration curve, load survey, base load and peak load station.

Text Book: Generation of electrical energy by B.R.Gupta, Eurasia Publishing House, New Delhi.

Reference Books:

1. Non conventional energy resources. By G.D.Rai, Khanna Publishers New Delhi
2. Solar energy by S.P.Sukhatme Tata McGraw Hill Publication
3. Principles of Power System by V.K.Mehta, S.Chand publication.
4. Conventional energy technology by S.B.Pandya, Tata McGraw Hill Publication.

3EE05/3 EP05ELECTRONIC DEVICES AND CIRCUITS

Course Outcomes:
After successfully completing the course, the students will be able to :

1. Demonstrate the knowledge of semiconductor physics and PN Junction Diode
2. Analyze the rectifier and regulator circuits.
3. Analyze the operational parameters of BJT
4. Analyze various multistage amplifier circuits
5. Demonstrate the knowledge of JFET, MOSFET, UJT and their operational parameters

UNIT-I:
P-N Junction diode theory, Energy bands in intrinsic and extrinsic silicon, carrier transport, diffusion current , drift current, mobility and resistivity, generation and recombination of carriers, PN junction diode , zener diode, zener diode as voltage regulator, Numericals based on voltage regulator (line and load regulation, Numericals based on resistivity, conductivity, mass action law)

UNIT-II:
Half wave, full wave center tapped full wave and bridge rectifier. Filters-C, LC and their analysis, clipping and clamping, Numericals based on clipping and clamping

UNIT-III:
Theory and Analysis of Bipolar Junction transistor, 'H' Parameter, methods of biasing, their needs, 'Q' and stability factors, compensation techniques.

UNIT-IV

Study of typical transistor amplifier circuits i) Emitter follower, ii) Darlington emitter follower. iii) Bootstrap emitter follower, iv) RC coupled amplifier, v) Transformer coupled amplifier, vi) Cascaded amplifier, vii) Direct coupled amplifier, viii) Cascade stage.

UNIT-V :

FETs (JFET & MOSFET): Types, Characteristics and parameters (u, gm &Rds), Applications of FET amplifiers, UJT: Characteristics, working, UJT as relaxation oscillator.

UNIT-VI :

Theory, construction and applications of Schottky diode, Tunnel diode, Varactor diode, Selenium diode, LED, Photo diode, PIN diode, photo-transistor.

Text Book: Millman's Electronic Devices & Circuits by J.Millman, C.Halkias, Satyabrata Jit TMH 3rd ed, 2nd reprint 2011.

Reference Books:

1. Electronic Devices and Circuits 5/e – David Bell Oxford University Press
2. Microelectronic Circuits 5/3 – Sedranad Smith Oxford University Press
3. Boylestad R. and "Electronics Devices & Circuits", Prentice Hall of India Private Limited, New Delhi (Fifth Edition), 1993.

3EE06/3 EP06/3EX06 ELECTRICAL CIRCUIT ANALYSIS LAB

Minimum eight experiments based on the syllabus content of 3EP02 Electrical Circuit Analysis. The intensive list of experiment is given below.

1. Verification of output response of series R-C circuit for step input
2. Study of dot convention and determination of
   A) Mutual inductance
   B) Coupling coefficient of b transformer
3. Verification of Mesh and Node analysis.
4. Verification of Superposition theorem.
5. Verification of Thevenin's theorem.
6. Verification of Maximum Power Transfer theorem.
7. Verification of reciprocity theorem.
8. Study of Milliman's theorem& verification.
9. Verification of Norton's theorem.
10. Determination of ABCD parametersT-network &Π-network.
11. Study of Tie set and Cut set schedule for a given network.
12. MATLAB simulation for o/p verification of any theorem.
13. Determination of Z and Y parameter.
14. Determination of hybrid parameter.

3EE07/3 EP07/3EX07 ELECTRICAL MACHINES - I LAB.

Minimum eight experiments based on the syllabus content of 3EP03Electrical Machines – I.

The indicative list of experiments is given below.

1. Plot the OCC of DC generator and find its critical resistance and critical speed.
2. To study the build-up of DC shunt generator, calculate critical resistance at different speeds.
3. Plot/Compare: External, Internal Characteristics of DC Shunt/series/compound generator.
4. Calculate the efficiency and voltage regulation of DC generator by the direct load test.
5. Speed Control of DC Shunt motor by armature control & Field Control method.
6. Perform the direct load test on DC series/shunt/compound motor to plot its performance characteristics, and determine its efficiency and speed regulation.
7. Conduct the Swinburn's test on DC machine to estimate its performance at any desired load condition.
8. Conduct the Hopkinson's test on DC Machine to analyze its performance.
9. Perform Electric Braking Operation on DC shunt Motor.
10. Conduct the Polarity test and Ratio test on transformer
11. Calculate the Equivalent circuit parameters of single-phase transformer by performing OC & SC test on itand determine its efficiency and voltage regulation.

12. Perform the direct load test on single phase/three phase transformer and determine its efficiency and voltage regulation.
13. Conduct back to back test (Sumpner's test)on two single phase transformers and determine the temperature rise.
14. Conduct the magnetic balance test on three phase transformer.
15. Conduct the vector group test on three phase transformer.
16. Conversion of three phase to two phase supply system using Scott Connection
17. Capture the waveform of inrush current of single phase/three phase transformer using DSO.

Reference:

S.G.Tarnekar, P.K.Kharbanda, S.B.Bodkhe, S.D.Naik and D.J.Dahigaonkar"Laboratory Courses in Electrical Engineering", S. Chand & Co. New Delhi, 2013.

3EE08/3 EP08/3EX08 ELECTRONIC DEVICES & CIRCUITS LAB

Minimum eight experiments based on the syllabus content of 3EP05Electronic Devices & Circuits. The intensive list of experiment is given below.

1. To study and verify V-I characteristics of semiconductor diode
2. To study and verify V-I characteristics of Zener diode.
3. To verify the performance of half wave rectifier circuit with and without filter.
4. To verify the performance of full wave bridge rectifier circuit and determination of load regulation.
5. To verify the performance of Zener voltage regulator.
6. To verify characteristics of bipolar junction transistor
7. To study and perform C-E amplifier gain with variation of load resistance.
8. To study and verify the characteristics of FET
9. To study UJT as a relaxation oscillator
10. To study phase shift oscillator & determine frequency of oscillation
11. To study characteristics of MOSFT
12. To study clipper circuits using diodes
13. To study clamper circuits using diodes
14. To study and verify operation of cascade amplifiers
15. To verify operation of transistor as a switch

3EE09/3 EP09/3EX09 ELECTRICAL TECHNOLOGY - LAB

Perform minimum Eight practicals / demonstration from the following list and prepare the report as a term work for this laboratory.

1. Introduction to standard symbols used in wiring diagrams
2. Introduction to different wiring accessories.
3. Demonstration of different types of wirings eg. Domestic wiring, commercial wiring, Industrial wiring.
4. Connection of Staircase wiring, Godown wiring, fluorescent lamp. Ceiling fan, air cooler etc
5. Domestic wiring diagrams
6. Connections of switch board, MCB and energy meter
7. Testing and electrical Maintenance of domestic appliances like lamps, electric iron, heater, geyser, air cooler, fan, microwave-oven, induction heater, etc.
8. Insulation resistance and earth resistance measurement
9. Conduct the load survey for domestic/commercial /Industrial consumers
10. Illumination system Design (selection of type and number of lamps required for any location)
11. Calculation of Energy bill for LT & HT consumers.
12. Safety precautions while working with electrical system
13. Demonstration of first aid treatment after getting electric shock.
14. Study of various components of solar power plant.
15. Design calculation of small capacity roof top solar power plant

SEMESTER – IV

4EE01/4EP01/4EX01 ELECTROMAGNETIC FIELDS

Course outcomes :

At the end of the course the student should be able to:

1. Demonstrate the basic mathematical concepts related to electromagnetic vector fields.
2. Apply the principles of electrostatics to the solutions of problems relating to electric field and electric potential, boundary conditions and electric energy density.
3. Apply the principles of magneto statics to the solutions of problems relating to magnetic field.
4. Apply Maxwell's equation in different forms (differential and integral) to diverse engineering problems.

Unit I :
Review of Vector Analysis: Cartesian, cylindrical and spherical co-ordinate systems, vector algebra and vector calculus. Line integral and multiple integrals. Gauss theorem.

Unit II :
Electrostatics: Coulomb's law, electric field, Gauss flux theorem in integral and differential form. Electrostatics potential, Poison and Laplace equations.

Unit III :
Electrostatics fields in dielectrics: electric dipole, polarization. P and D vectors, boundary conditions. Capacitance and electrical energy.

Unit IV :
Magnetic fields: Biot-Savart law, Ampere's law in integral and differential form. Continuity equation, time of relaxation. Vector and Scalar magnetic potential, electric current, J vector..

Unit V
Magnetic fields in materials: magnetic dipole equivalent volume and plane section curve. H vector, magnetization vector M, boundary conditions between magnetic materials, inductance, Electromagnetic Energy.

Unit VI :
Maxwell equations and wave equations: Displacement current, time varying fields and Maxwell's equations, plane uniform magnetic waves. Depth of penetration Poynting vector

Text Book: "Engineering Electromagnetics", by Hayt W.H. Tata Mc-Graw Hill publication

Reference Books:

1. Electromagnetic fields by TVS Arun Murthy S Chand & Co
2. Principles and applications of Electromagnetic fields by Plansycollin , Mc-Graw Hill Books Co.
3. Foundations of electromagnetic theory by John Reitz, Addison Wesley Pub Co.
4. Basic electromagnetic field by Herbert Neelf, Harber International education
5. Introduction to electromagnetic, Derucy and Johnson, Mc-Graw Hill Books Co.

4EE02/4EP02/4EX02 ELECTRICAL MEASUREMENTS & INSTRUMENTATION

Course Outcomes:

A student completing this course, should be able to:

1. Classify the various measuring instruments like PMMC, MI, Electrodynamometer, and Induction type instruments for measurement of current, voltage, power, and energy.
2. Demonstrate the construction & working of Instrument Transformers and special purpose meters.
3. Analyze various methods for measurement of resistance, inductance, and capacitance using AC/DC bridges.
4. Explain the working of various Digital measuring instruments.
5. Explain the generalized Instrumentation system & working of different transducers.

Unit-I: Analog Instruments - Classification of measuring instrument, Different torques in measuring instrument, Analog Ammeter, Voltmeter, Electrodynamic type Construction, ,theory of operation, torque equation, errors, merits and demerits of each type.

Unit II : Wattmeter and Energy meter-Construction, theory of operation, torque equation, errors, merits and demerits of each type.
Analysis of three phase balanced load:- Blondell's theorem, Measurement of active and reactive power in single phase and three phase circuits.

Unit III : Instrument transformers- C.T.and P.T., Importance, theory and construction, phasor diagram, causes of errors, testing, and applications.
Special Instruments- Frequency meter, Power factor meter, Phase sequence indicator, Synchroscope and Stroboscope.

Unit IV: Measurement of circuit parameters- Different methods of measurement of low, medium, high value of resistance, sensitivity and accuracy of different methods. AC and DC bridges, Wheat -stone, Kelvin, Maxwell ,Wein , Hay , De-Sauty ,Schering , Owen , Anderson's bridge.

Unit V:
Digital methods of measurements, Introduction to A/D, D/A techniques , F/V and V/F conversion techniques , Digital voltmeter (DVM), ammeter, wattmeter, multi-meter and Electronic energy meter, Sources of error, Inherent error in digital meters.

Unit VI:
Generalized Instrumentation system- characteristics of measurement and Instrumentation system. Transducers: Definition, classification, Specification, selection, loading effect, Displacement, velocity transducers, Force and torque transducers, Resistive, inductive, Capacitive, strain gauge transducers, Piezoelectric, current and voltage transducers. Elastic-members (Bellows, Bourdon tube, Diaphragm)

Text Book: A.K. Sawhney, 'Electrical & Electronic Measurements & Instrumentation', Dhanpat Rai& Co (P) L

Reference Books:

1. E.W.Golding&F.C.Widdis, 'Electrical Measurements & Measuring Instruments', A.H.Wheeler& Co.
2. Albert D. Helfrick& William D. Cooper, 'Modern Electronic Instrumentation & Measurement Techniques', Prentice Hall of India, .
3. Joseph. J. Carr, 'Elements of Electronic Instrumentation & Measurements', III edition, Pearson Education.
4. Bouwens, A.J., "Digital Instrumentation", McGraw Hill.

4EP03 CONTROL SYSTEMS

Course Outcomes:

After completing this course, student will be able to:

1. Demonstrate the fundamental concepts of automatic Control and mathematical modeling of the Systems.
2. Determine the transfer function of control system components.
3. Analyze the time response of various systems and performance of controllers.
4. Evaluate the stability of linear systems using various methods.

Unit I : Introduction to automatic control
Open loop and closed loop system, servo-mechanisms, mathematical modeling of physical systems, transfer functions, block diagrams and signal flow graphs. Effect of feedback on sensitivity to parameter variation and reduction of the noise.

Unit II : Control System Components
Electrical / Electro-mechanical components such as A.C./D.C. servomotors, stepper motors, synchros, potentiometers, tacho-generators, encoders, their functional analysis and operating characteristics and their application.

Unit III: Time response analysis:

Time response of first and second order systems to standard inputs. Time response specifications, types of system, error analysis, error coefficients, steady state errors, dynamic error series. Approximate methods for higher order system, proportional, derivative and integral control.

Unit IV: Stability
Stability of control systems, characteristics equation, impulse response, Routh-Hurwitz stability criterion, relative stability. Root Locus: construction of root locus, determination of roots from root locus conditions on variable parameter for stability, effect of addition of poles and zeros.

Unit V: Frequency response methods
Frequency response of linear system, specification, Logarithmic frequency response (Bode) plots from transfer function for various systems. Polar plots for various systems. Estimation of approximate transfer functions from the frequency response.

Unit VI: Stability analysis from frequency response : Gain margin and Phase margin; Stability analysis from Bode plots. Nyquist criterion, Nyquist plots and stability analysis.

Books Recommended:

Text Book: Nagrath I.J., Gopal M.: Control System Engineering, Wiley Eastern.

Reference Books:

1. Control Engineering, D.Ganesh Rao, k. Chennavenkatesh, 2010, PEARSON
2. Ogata K.: Modern Control Systems, Prentice Hall of India.
3. Control Systems by K.R.Varmah TMH edition 2010
4. Linear Control Systems, Ashfaq Hussain, Haroon Ashfaq, Dhanpat Rai & co.

4EP04 NUMERICAL METHODS & OPTIMIZATION TECHNIQUES

Course Outcome:
After completing this course students will be able to

1. Solve linear and Simultaneous Equations with the help of Numerical Methods.
2. Apply various Numerical methods to fit the curve.
3. Solve Numerical differentiation, integration, and Differential Equations.
4. Solve linear, non linear and dynamic optimization problem by various methods.
5. Determine the optimum scheduling by using CPM and PERT.

Unit I:
(a)Absolute, relative and percentage errors and analysis, Solution of Algebraic and Transcendental equations: Bisection Method, False Position method, Newton Raphson methods, Successive approximation method

(b) **Solution of Simultaneous Algebraic Equations**: matrix inverse method, Gauss elimination method,Iterative method-Jacobi's Method, Gauss Seidel Method; Eigen values of a matrix.

Unit II:
(a) Curve fitting by Least Square Method, Correlations and Regression.

(b) Newton's forward and backward interpolation method, Newton's Divided Difference Method, Lagrange's Interpolation method, Interpolation with Cubic Splines.

Unit III:
Numerical differentiation by Taylor series method, Maximum and minimum values, Numerical Integration by Trapezoidal, Simpsons one third and three eight rules, Numerical solution to differential equations by Taylor Series, Euler's method, RungeKutta second and fourth order methods

Unit IV:
Basics of Optimization Techniques, Linear programming - standard form, definitions and theorems, graphical method, simplex method, two phase simplex method, balanced and unbalanced transportation problems.

Unit V:
Non linear programming: unimodal function, Fibonancci search method and golden section method, Steepest descent method, conjugate gradient method, unconstraint optimization, direct search method.

Unit VI:
Dynamic programming: multistage decision processes, principle of optimality, sub optimization, calculus and tabular method of solution, conversion of final value problem into initial value problem.

CPM and PERT: introduction, Network representation of project, critical path, Probability of completion of project, optimum scheduling by CPM, crashing of project.

Books Recommended:

Text Books:
1. Introductory Methods of Numerical Analysis; S. S. Sastry (PHI)
2. Engineering Optimization – Theory & Practice; S. S. Rao (New Age International Pvt. Ltd.)

Reference Books:

1. Mathematical Statistics by J. N. Kapoor, Tata McGraw Hill Pub. Co. Ltd
2. Numerical Methods in Engineering and Science; B. S. Grewal (Khanna Publishers)
3. PERT and CPM- Principles & Application; L. S. Srinath (Affiliated East-West press pvt. Ltd)
4. Optimization for Engineering Design - Algorithms and Examples byKalyan Moy Deb, PHI Pub.

4EE04/ 4EP05 /4EX04 ANALOG AND DIGITAL CIRCUITS

Course Outcomes:

After completing the course, students will be able to

1. Explain the principles of operational amplifiers, parameters of op-amp
2. Illustrate the linear and nonlinear applications of op-amp
3. Demonstrate the knowledge of Voltage regulator and Timer ICs
4. Describe the working of Logic families andtheir applications.
5. Demonstrate the knowledge of combinational and sequential circuits and its application

Unit I:
Introduction to IC's: Operation amplifier; Block schematic internal circuits, Level shifting, overload protection, study of IC 741 op-amp, Measurement of op-amp parameter.

Unit II:
Linear and Non-linear Application of Op-amp: Inverting and non inverting amplifiers, voltage follower, integrator, differentiator differential amplifier, op amp as adder subtractor, op amp as a log and antilog amplifier

Sinusoidal RC-phase shift and Wein bridge oscillators, clipping, clamping and comparator circuits using op-amps.

Unit III:
Other linear IC's : Block schematic of regulator IC 723, and its applications, study of 78XX, 79XX and its applications, SMPS, Block schematic of timer IC 555 and its applications as a timer, a stable, mono stable, bistable multivibrator and other applications, Operation of phase lock loop system and IC 565 PLL, its application.

Unit IV: Basic Logic Circuits : Logic gate characteristics, NMOS inverter, propagation delay, NMOS logic gate, CMOS inverter, CMOS logic gates, BJT inverter, TTL, NAND gate, TTL output, state TTL logic families, ECL circuits, composition logic families.

Unit V:
Combinational Digital Circuits: Standard gate assemblies, Binary adder, Arithmetic functions, Digital comparator, Parity check generator, Decoder / demultiplexer, Data selector / multiplexer, Encoder

Unit VI:
Sequential Circuits and Systems: Bistable Latch, Flip-Flop clocked SR,J-K, T, D type shift Registers, counter. Design using filp-flops, Ripple and synchronous types, application of counters

Books Recommended:-

Text Book: Millman, Microelectronics, 2nd Ed., McGraw Hill.

Reference Books:

1. Gayakwad, Op-Amp & LLG, 2nd Ed.
2. Malvino& Leach, Digital Principles & Applications, 4th Ed., McGraw Hill.
3. K.B.Botkar, Integrated Electronics (Khanna Publishers.)

4EE07/ 4EP06 /4EX06 ELECTRICAL MEASUREMENTS & INSTRUMENTATION- LAB

Minimum eight experiments based on the syllabus content of 4EP02 Electrical Measurements & Instrumentation. The intensive list of experiment is given below.

1. Measurements of Low resistance by using Kelvin double Bridge.
2. Measurements of Medium resistance by Ammeter Voltmeter method/Wheatstone Bridge
3. Measurement of High resistance by Loss of Charge method.
4. Measurement of Insulation resistance by using Megger

5. Measurement of unknown Inductance using Maxwell Bridge/Hay Bridge/Anderson Bridge
6. Measurement of Unknown Capacitance by Desauty Bridge/Schering Bridge
7. Measurement of frequency using Wien Bridge
8. Extension of range of ammeter using shunt/CT.
9. Extension of range of voltmeter using multiplier/PT.
10. Calibration of Wattmeter by Phantom loading
11. Calibration of energy meter to detect the error in it.
12. Measurement of active & reactive power measurement in 1 phase / 3 phase circuit.
13. Measurement of rotational speed using stroboscope
14. Conversion of non electrical quantity into its equivalent electrical quantity using proper transducer.
15. Compare the accuracy, preciseness, sensitivity of Analog & Digital Measuring Instruments.

4EP07 CONTROL SYSTEM LAB

Minimum eight experiments based on the syllabus content of 4EP03Control System. The intensive list of experiment is given below.

1. Study of Potentiometer
2. Study of A.C. Synchro and its characteristics
3. Determination of Transfer Function of D.C. Generator
4. Determination Of Transfer Function of D.C.Servomotor and Its Characteristics
5. Performance Characteristics of a D.C. Motor Angular Position Control System
6. Determination Of Frequency Response of Given R-C Network
7. Determination Of Transfer Function of A.C. Tacho-Generator
8. Experimental Study Of The Operating Characteristics of a Small Stepper Motor and Its Controller
9. Study Closed Loop PI Controller System and Its Time Response to Different Input.
10. Experimental Study of Position Control of DC Motor using Ardiuno
11. Experimental Study of Time Domain Analysis of Second Order Control System
12. Study AC Position Control System

4EE09/ 4EP08 /4EX08 ANALOG AND DIGITAL CIRCUIT LAB

Minimum eight experiments based on the syllabus content of 4EP05Analog & Digital Circuit. The intensive list of experiment is given below.

1. To Plot Frequency Response Of Non-Inverting Mode Of Op-Amp Using IC741 and Determine the Bandwidth & Maximum Gain
2. To Plot Frequency Response Of Inverting Mode Of Op-Amp Using IC741 and Determine the Bandwidth & Maximum Gain
3. To Perform Op-Amp as Differentiator Using IC741 .
4. Design The Circuit for Supplying 5V,25mA As A Low Voltage Regulator Using IC 723
5. Verification Of Truth Table Of Various Logic Gates Using ICs
6. To Study and Verify The Operation Of SR and MS ,JK Flip Flop
7. To Verify The Operation Of Multiplexer Using IC74153.
8. To Design And Verify Function Of Decade Counterusing IC 7490
9. To Verify The Truth Table Of 4 Bit Comparator
10. To Perform Op-Amp As Integrator Using IC741
11. A stable Multi-vibrator Using IC 555timer
12. To Study And Verify The Operation Of Half-Adder And Full-Adder.

4EE10/ 4EP09 /4EX09 ELECTRONIC TECHNOLOGY LAB

Perform Minimum Eight experiments / demonstration based on the following contentand prepare the report as a term work for this laboratory.

- **Study of electronic Components:** Identification of components, name, types, symbol, size, rating and application.
- **Handling Electronic Components:** Finding values and testing (using DMM), test working condition, fault detection.
- **Working with breadboards:** understanding the breadboards for component mounting, working with small circuits on breadboard

- **Soldering:**Soldering skill tips- use of proper soldering Iron, Metal, Flux**,** Cleaning, Tinning etc., mounting components on zero PCB, testing of small circuits mounted on zero PCB. De-soldering of components
- **PCB Layout and design:** Understanding different PCBs, Working on PCB Layout (Software), PCB etching, drilling on PCB, Mounting components on PCB, Working with small circuits on PCB and their testing
- **Electronic circuit Simulation:** Familiarizing with the simulation software, simulation and result validation of simple circuit with software.

****

SYLLABUS OF B.E. (ELECTRICAL) SEM. III & IV [C.B.C.S.]

3EE01/3 EP01/3EX01 ENGINEERING MATHEMATICS -III

Course Outcomes:
After successfully completing the course, the students will be able to:

1. Demonstrate the knowledge of differential equations and partial differential equations, applied to electrical engineering systems.
2. Apply Laplace transform to solve differential equations.
3. Demonstrate the use of Fourier Transform to connect the time domain and frequency domain.
4. Apply Z Transform to solve of various Linear Difference equations with constant coefficients.
5. Apply the knowledge of vector calculusto solve physical problems.
6. Demonstrate the basic concepts of probability and statistics.

UNIT-I:
(a) **Statistics:**Introduction, Curve fitting by method of least square, change of scale, fitting of straight line and parabola, correlation, regression. Application of statistics to electrical engineering.

(b) **Probability**: Axioms, conditional probability, Bay'stheorem,mathematical expectations, probability distributions:Binomial, Poisson and Normal.Application of probability to electrical engineering.

UNIT-II:
(a)Partial differential equation (PDE)of first order and first degree of following type-

(i) f (p, q) = 0; (ii) f (p, q, z) =0; (iii) f (p, q, x, y) = 0; (iv) Pp + Qq =R (Lagrange's Form); (v) Clairaut form Z = px + qy + f(p, q) . Applications of PDE to electrical circuits.

(b)DifferenceEquation: -Solution of difference equations of first order, solution of difference equations of higher order with constant coefficient.Applications of difference equations to electrical engineering.

UNIT-III:
Laplace Transforms: Definition, standard forms, properties of Laplace transform, inverse Laplace transform, Laplace transform of some basic functions, initial and final value theorem, convolution theorem, Laplace transform of Periodic Function, Impulse Function, Unit Step Function. Solution of linear differential equation using Laplace transform.

UNIT-IV:
Fourier Transforms- Definition, standard forms, properties of Fourier transform,inverse Fourier transform, Fourier Transform of some basic functions.Fourier transform of Periodic Function, Impulse Function, Unit Step Function.Fourier cosine transforms. Applications of Fourier Transforms in electrical engineering.

UNIT-V:
Z-transform: Definition, standard forms, Z-transform of impulse function, Unit step functions, Properties of Z-transforms (Linearity, shifting, multiplication by k, change of scale), initial and final values, inverse Z-transforms (by direct division and partial fraction), Solution of difference equation by Z-transforms.

UNIT-VI:
Vector Calculus: - Scalar and Vector point functions, Differentiation of vectors, Curves in space, Gradient of a scalar point function, Directional derivatives, Divergence and curl of a vector point function and their physical meaning, Line Integral, Stokes and Divergence Theorem. Application of Vector calculus to electromagnetics.

Text Book: Elements of Applied Mathematics by P.N.Wartikar and J.N.Wartikar.

Reference Books:

1. Statistical Methods by S.G. Gupta
2. Advance Engineering Mathematics by B.S.Grewal
3. Integral Transforms by Goyal & Gupta.

3EE02/3 EP02/3EX02 ELECTRICAL CIRCUIT ANALYSIS

Course Outcomes:

After completing this course student twill be able to:

1. Analyze electric and magnetic circuits using basic circuital laws
2. Analyze the circuit using Network simplification theorems.
3. Solve circuit problems using concepts of electric network topology.
4. Evaluate transient response of different circuits using Laplace transform
5. Evaluate two-port network parameters and network functions

Unit I:

[a] Terminal Element Relationships: V-I relationship for Dependent &Independent , Voltage and Current Sources., Source Transformations. Source Functions: unit impulse, unit step, unit ramp and interrelationship, sinusoidal input, generalized exponential input.

Magnetic Circuits: concept of self and mutual inductance, dot convention, coefficient of coupling, composite magnetic circuit, Analysis of series and parallel magnetic circuits.

[b] Basic Nodal and mesh Analysis: Introduction, Nodal analysis, super node analysis, mesh analysis, super mesh analysis.

Unit II:

Network Theorems: Superposition theorem, Thevenin'stheorem, Norton's theorem, Maximum power transfer theorem, Reciprocity theorem, Millman's theorem, Substitution theorem, Compensation theorem, Tellegen's theorem

Unit III :

Graph Theory and Network Equation:-Graph of a network, Trees and loops, Tie-set and cut set matrix of a network, Network equilibrium equations, duality-network transformation.

Unit IV:

a] **Transformation of a Circuit into s-domain:** LaplaceTransformed equivalent of inductance, capacitance and mutual inductance, Impedance and admittance in the transform domain, Node Analysis and Mesh Analysis of the transformed circuit. Complete Solution ofLinear Differential Equations for Series RC, Parallel RC, Series RL, Parallel RL, Series RLC, Parallel RLC and Coupled Circuits-for step Inputs. Natural Response, Transient Response, Determination of initial conditions.

Unit V :

Two Port Networks: Two port networks: Open circuit impedance parameters, Short circuit admittance parameters, Transmission parameters, Hybrid parameters, Condition for reciprocity and symmetry of a two port network, Interrelationship between parameters, Interconnection of two port networks , Input impedance in terms of two port network parameters, Output impedance, Image impedance.

Unit VI :

Network functions: Ports and terminal pairs, Network functions, poles and zeros, Necessary conditions for driving point function, Necessary conditions for transfer function. Applications of network analysis in driving network functions, positive real functions, driving point and transfer impedance function.

Text Book: Network Analysis, M.E. Van Valkenburg, PHI, 2005.

Reference Books:

1. Circuits & Networks – Analysis, Design & Synthesis by M.S.Sukhija, T.K.Nagasarkar, OxfordUniversity Press, 2010.
2. Circuit and Network Analysis, SudhakarShyammohan, Tata Mc Graw Hill, 2005.
3. Network Analysis, P. Ramesh babu, SciTech Publications, Chennai, 2009.

3EE03/3 EP03/3EX03 ELECTRICAL MACHINES – I

Course Outcomes:

After Completing this course, students will be able to:

1. Explain the construction and working of DC Machines.
2. Illustrate the different Characteristics, types, their applications and parallel Operation of D.C. Generators.
3. Demonstrate the various characteristics, starting, speed control and braking operation on DC motors
4. Analyze the performance of DC machines by conducting the various tests on it.
5. Determine the parameters of equivalent circuits, performance parameters of single phase transformer and merits & demerits of autotransformer
6. Explain the construction, working, different connections, applications and testing of three phase transformer.

Unit I :
D.C. Machines: Construction, Principle of Operation, EMF Equation, Torque Equation. Armature winding – Lap, wave, single layer, double layer. Armature Reaction and commutation, method of improving commutation.

Unit II :
D.C. Generators: Types, Characteristics and Applications of D. C. Generators, Parallel Operation of D.C. Generators, Introduction to testing of D. C. Generators as per Indian standard.

Unit III :
D.C. Motors: Types, Characteristics & Modified Characteristics, Applications of D.C. Motors. Starting, Electric Braking, Speed Control of DC Motors. Losses, efficiency and testing of DC Motors.

Unit IV :
Single phase Transformer: Working Operation, EMF Equation, and separation of core losses in to its component. Equivalent Circuit, Parallel Operation. Open Circuit, Short Circuit & Sumpner's test on transformer as per Indian standard.

Single phase Autotransformer: - construction, working, merits, demerits and its application.

Unit V :
Three Phase Transformer: Construction, Working, Types, connections, vector group connections, open delta Connection, OC, SC, Heat run test, load test, magnetic balance, vector group test on three phase transformer.

Unit VI :
Three Phase Transformer: Three-winding transformer, On load & Off load tap changers, Scott Connection, Power transformer and Distribution transformer. Waveforms of no load current & inrush current phenomenon.

Text Book: Electrical Machines by D P Kothari & I J Nagrath TMH. New Delhi.

Reference Books:

1) C. Dawes: Electrical Engineering, Vol.I: Direct current (IV Edition), (McGraw Hill Book Company)
2) H. Cotton: Advance Electrical Technology, (Wheeler publication)
3) Indian Standard Guide for testing DC Machine. IS: 9320-1979, (Indian Standards Institution, New Delhi.)
4) Indian Standard Specification for safety transformer. IS: 1416-1972, (Indian Standards Institution, New Delhi.)

3EE04/3 EP04 ENERGY RESOURCES AND GENERATION

Course Outcomes:
A student, on completion of this course, will be able to:

1. Explain the operation of Thermal, Hydro, Nuclear and Diesel power plants.
2. Summarize solar energy conversion, solar radiation measuring instruments, wind energy conversion and their applications.
3. Outline the principle and operation of fuel cells, ocean & tidal energy conversion, and other non-conventional energy resources.
4. Determine the various factorsand curves related to electrical load & generating plant.

Unit I :
Conventional and non conventional energy sources, Indian Energy Scenario.
Thermal and hydro power plant: Layout of Thermal power plant, Selection of site, working of various parts: Economizer, air preheater, condenser, cooling tower, ash &coal handling plant, advantages & disadvantages
Layout of Hydro power plant, classification of hydro power plant according to available head, nature of load, functions of different components and their working, mini and micro hydro-electric power generation, advantages & disadvantages.

Unit II :
Nuclear and Diesel power plant: nuclear fission and fusion, Layout of Nuclear power plant, Selection of site, Functions of different components of nuclear plant, types of nuclear reactors , advantages & disadvantages of different nuclear reactors, nuclear waste disposal., safety measures.
Layout of Diesel power plant, functions of different components of diesel plant, advantages & disadvantages.

Unit III :
Solar Energy and its measurement: Solar cell, array & module, Solar constants, solar radiation at earth's surface, Solar radiation geometry, solar radiation measurement, estimation of average solar radiation, solar radiation on tilted surface, principle of solar energy conversion in to heat, types of solar collectors, energy balance equation and collector efficiency.

Unit IV :
a]Fuel cells: Chemistry applied to fuel cells, principle and operation ,classification and types of fuel cells, performance characteristics of fuel cells, classification of fuel cell system.

b]Wind energy :Basic principle of wind energy conversion, wind data and energy estimation, selection of site ,basic components of wind energy conversion system ,classification of WEC systems ,generating system, applications of wind energy.

Unit V :
Ocean, Tidal & Other non-conventional energy resources: Ocean energy resources, ocean energy routes, ocean thermal energy conversion, basic principle of tidal power, components of tidal power plants, operation methods of utilization of tidal energy, estimation of power and energy in single and double basin tidal system,. Operating principles of energy from biomass, energy from biogas, geothermal energy, MHD power generation, energy from urban and rural waste.

Unit VI :
Load-Generation factors: connected load, maximum demand, demand factor, load factor, diversity factors, plant capacity and utilization factor, types of loads, load curve, chronological load curve, load duration curve, energy load curve, energy duration curve, load survey, base load and peak load station.

Text Book : Generation of Electrical Energy by B.R.Gupta, Eurasia Publishing House, New Delhi.

Reference Books:

1. Non conventional energy resources. By G.D.Rai, Khanna Publishers New Delhi
2. Solar energy by S.P.Sukhatme Tata McGraw Hill Publication
3. Principles of Power System by V.K.Mehta, S.Chand publication.
4. Conventional energy technology by S.B.Pandya, Tata McGraw Hill Publication.

3EE05/3 EP05ELECTRONIC DEVICES AND CIRCUITS

Course Outcomes:

After successfully completing the course, the students will be able to :

1. Demonstrate the knowledge of semiconductor physics and PN Junction Diode
2. Analyze the rectifier and regulator circuits.
3. Analyze the operational parameters of BJT
4. Analyze various multistage amplifier circuits
5. Demonstrate the knowledge of JFET, MOSFET, UJT and their operational parameters

UNIT-I:
P-N Junction diode theory, Energy bands in intrinsic and extrinsic silicon, carrier transport, diffusion current , drift current, mobility and resistivity, generation and recombination of carriers, PN junction diode , zener diode, zener diode as voltage regulator, Numericals based on voltage regulator (line and load regulation, Numericals based on resistivity, conductivity, mass action law)

UNIT-II:
Half wave, full wave center tapped full wave and bridge rectifier. Filters-C, LC and their analysis, clipping and clamping, Numericals based on clipping and clamping

UNIT-III:
Theory and Analysis of Bipolar Junction transistor, 'H' Parameter, methods of biasing, their needs, 'Q' and stability factors, compensation techniques.

UNIT-IV :
Study of typical transistor amplifier circuits i) Emitter follower, ii) Darlington emitter follower. iii) Bootstrap emitter follower, iv) RC coupled amplifier, v) Transformer coupled amplifier, vi) Cascaded amplifier, vii) Direct coupled amplifier, viii) Cascade stage.

UNIT-V :
FETs (JFET & MOSFET): Types, Characteristics and parameters (u, gm &Rds), Applications of FET amplifiers, UJT: Characteristics, working, UJT as relaxation oscillator.

UNIT-VI :
Theory, construction and applications of Schottky diode, Tunnel diode, Varactor diode, Selenium diode, LED, Photo diode, PIN diode, photo-transistor.

Text Book :
Millman's Electronic Devices & Circuits by J.Millman, C.Halkias, Satyabrata Jit TMH 3rd ed, 2nd reprint 2011.

Reference Books:

1. Electronic Devices and Circuits 5/e – David Bell Oxford University Press
2. Microelectronic Circuits 5/3 – Sedranad Smith Oxford University Press
3. Boylestad R. and "Electronics Devices & Circuits", Prentice Hall of India Private Limited, New Delhi (Fifth Edition), 1993.

****

3EE06/3 EP06/3EX06 ELECTRICAL CIRCUIT ANALYSIS - LAB

Minimum eight experiments based on the syllabus content of 3EE02/3 EP02/3EX02Electrical Circuit Analysis. The intensive list of experiment is given below :

1. Verification of output response of series R-C circuit for step input
2. Study of dot convention and determination of
   A) Mutual inductance
   B) Coupling coefficient of b transformer
3. Verification of Mesh and Node analysis.
4. Verification of Superposition theorem.
5. Verification of Thevenin's theorem.
6. Verification of Maximum Power Transfer theorem.
7. Verification of reciprocity theorem.
8. Study of Milliman's theorem& verification.
9. Verification of Norton's theorem.
10. Determination of ABCD parametersT-network &Π-network.
11. Study of Tie set and Cut set schedule for a given network.
12. MATLAB simulation for o/p verification of any theorem.
13. Determination of Z and Yparameter.
14. Determination of hybrid parameter.

3EE07/3 EP07/3EX07 ELECTRICAL MACHINES - I LAB

Minimum eight experiments based on the syllabus content of 3EE03/3 EP03/3EX03Electrical Machines – I.

The indicative list of experiments is given below.

1. Plot the OCC of DC generator and find its critical resistance and critical speed.
2. To study the build-up of DC shunt generator, calculate critical resistance at different speeds.
3. Plot/Compare: External, Internal Characteristics of DC Shunt/series/compound generator.
4. Calculate the efficiency and voltage regulation of DC generator by the direct load test.
5. Speed Control of DC Shunt motor by armature control & Field Control method.

6. Perform the direct load test on DC series/shunt/compound motor to plot its performance characteristics, and determine its efficiency and speed regulation.
7. Conduct the Swinburn's test on DC machine to estimate its performance at any desired load condition.
8. Conduct the Hopkinson's test on DC Machine to analyze its performance.
9. Perform Electric Braking Operation on DC shunt Motor.
10. Conduct the Polarity test and Ratio test on transformer
11. Calculate the Equivalent circuit parameters of single-phase transformer by performing OC & SC test on itand determine its efficiency and voltage regulation.
12. Perform the direct load test on single phase/three phase transformer and determine its efficiency and voltage regulation.
13. Conduct back to back test (Sumpner's test)on two single phase transformers and determine the temperature rise.
14. Conduct the magnetic balance test on three phase transformer.
15. Conduct the vector group test on three phase transformer.
16. Conversion of three phase to two phase supply system using Scott Connection
17. Capture the waveform of inrush current of single phase/three phase transformer using DSO.

. **Reference:** S.G.Tarnekar, P.K.Kharbanda, S.B.Bodkhe, S.D.Naik and D.J.Dahigaonkar"Laboratory Courses in Electrical Engineering", S. Chand & Co. New Delhi, 2013.

****

3EE08/3 EP08/3EX08 ELECTRONIC DEVICES & CIRCUITS - LAB

Minimum eight experiments based on the syllabus content of 3EE05/3 EP05/3EX04Electronic Devices & Circuits. The intensive list of experiment is given below :

1. To study and verify V-I characteristics of semiconductor diode
2. To study and verify V-I characteristics of Zener diode.
3. To verify the performance of half wave rectifier circuit with and without filter.
4. To verify the performance of full wave bridge rectifier circuit and determination of load regulation.
5. To verify the performance of Zener voltage regulator.
6. To verify characteristics of bipolar junction transistor
7. To study and perform C-E amplifier gain with variation of load resistance.
8. To study and verify the characteristics of FET
9. To study UJT as a relaxation oscillator
10. To study phase shift oscillator & determine frequency of oscillation
11. To study characteristics of MOSFT
12. To study clipper circuits using diodes
13. To study clamper circuits using diodes
14. To study and verify operation of cascade amplifiers
15. To verify operation of transistor as a switch

3EE09/3 EP09/3EX09 ELECTRICAL TECHNOLOGY - LAB

Perform **minimum Eight** practicals /demonstrations from the following list and prepare the report as a term work for this laboratory.

1. Introduction to standard symbols used in wiring diagrams
2. Introduction to different wiring accessories.
3. Demonstration of different types of wirings eg. Domestic wiring, commercial wiring, Industrial wiring.
4. Connection of Staircase wiring, Godown wiring, fluorescent lamp. Ceiling fan, air cooler etc
5. Domestic wiring diagrams
6. Connections of switch board, MCB and energy meter
7. Testing and electrical Maintenance of domestic appliances like lamps, electric iron, heater, geyser, air cooler, fan, microwave-oven, induction heater, etc.
8. Insulation resistance and earth resistance measurement
9. Conduct the load survey for domestic/commercial /Industrial consumers
10. Illumination system Design (selection of type and number of lamps required for any location)
11. Calculation of Energy bill for LT & HT consumers.
12. Safety precautions while working with electrical system
13. Demonstration of first aid treatment after getting electric shock.
14. Study of various components of solar power plant.
15. Design calculation of small capacity roof top solar power plant

******

SEMESTER IV

4EE01/4EP01/4EX01 ELECTROMAGNETIC FIELDS

Course outcomes :

At the end of the course the student should be able to:

1. Demonstrate the basic mathematical concepts related to electromagnetic vector fields.
2. Apply the principles of electrostatics to the solutions of problems relating to electric field and electric potential, boundary conditions and electric energy density.
3. Apply the principles of magneto statics to the solutions of problems relating to magnetic field.
4. Apply Maxwell's equation in different forms (differential and integral) to diverse engineering problems.

Unit I :
Review of Vector Analysis: Cartesian, cylindrical and spherical co-ordinate systems, vector algebra and vector calculus. Line integral and multiple integrals. Gauss theorem.

Unit II :
Electrostatics: Coulomb's law, electric field, Gauss flux theorem in integral and differential form. Electrostatics potential, Poison and Laplace equations.

Unit III :
Electrostatics fields in dielectrics: electric dipole, polarization. P and D vectors, boundary conditions. Capacitance and electrical energy.

Unit IV :
Magnetic fields: Biot-Savart law, Ampere's law in integral and differential form. Continuity equation, time of relaxation. Vector and Scalar magnetic potential, electric current, J vector..

Unit V : Magnetic fields in materials: magnetic dipole equivalent volume and plane section curve. H vector, magnetization vector M, boundary conditions between magnetic materials, inductance, Electromagnetic Energy.

Unit VI :
Maxwell equations and wave equations: Displacement current, time varying fields and Maxwell's equations, plane uniform magnetic waves. Depth of penetration Poynting vector

BOOKS RECOMMENDED:

Text Book: Engineering Electromagnetics by Hayt W.H. Tata Mc-Graw Hill publication.

Reference Books:
1. Electromagnetic fields by TVS Arun Murthy S Chand & Co

2. Principles and applications of Electromagnetic fields by Plansycollin , Mc-Graw Hill Books Co.

3. Foundations of electromagnetic theory by John Reitz, Addison Wesley Pub Co.

4. Basic electromagnetic field by Herbert Neelf, Harber International education

5. Introduction to electromagnetic, Derucy and Johnson, Mc-Graw Hill Books Co.

4EE02/4EP02/4EX02 ELECTRICAL MEASUREMENTS & INSTRUMENTATION

Course Outcomes:

A student completing this course, should be able to:

Classify the various measuring instruments like PMMC, MI, Electrodynamometer, and Induction type instruments used for measurement of current, voltage, power, and energy.

1. Demonstrate construction & working of Instrument Transformers and special purpose meters.
2. Analyze various methods for measurement of resistance, inductance, capacitance using bridges.
3. Explain the working of various Digital measuring instruments.
4. Explain the generalized Instrumentation system & working of different transducers used for measurement of various non electrical quantities.

Unit-I :
Analog Instruments - Classification of measuring instrument, Different torques in measuring instrument, Analog Ammeter, Voltmeter, Electrodynamic type Construction, ,theory of operation, torque equation, errors, merits and demerits of each type.

Unit II :

Wattmeter and Energy meter-Construction, theory of operation, torque equation, errors, merits and demerits of each type. Analysis of three phase balanced load:- Blondell's theorem, Measurement of active and reactive power in single phase and three phase circuits.

Unit III :

Instrument transformers- C.T.and P.T., Importance, theory and construction, phasor diagram, causes of errors, testing, and applications. Special Instruments- Frequency meter, Power factor meter, Phase sequence indicator, Synchroscopeand Stroboscope.

Unit IV:
Measurement of circuit parameters- Different methods of measurement of low, medium, high value of resistance, sensitivity and accuracy of different methods. AC and DC bridges, Wheat -stone, Kelvin, Maxwell , Wein , Hay , De-Sauty ,Schering , Owen , Anderson's bridge.

Unit V:
Digital methods of measurements, Introduction to A/D, D/A techniques , F/V and V/F conversion techniques , Digital voltmeter (DVM), ammeter, wattmeter, multimeter and Electronic energy meter, Sources of error, Inherent error in digital meters.

Unit VI:
Generalized Instrumentation system- characteristics of measurement and Instrumentation system. Transducers: Definition, classification, Specification, selection, loading effect, Displacement, velocity transducers, Force and torque transducers, Resistive, inductive, Capacitive, strain gauge transducers, Piezoelectric, current and voltage transducers. Elastic-members (Bellows, Bourdon tube, Diaphragm)

Text Book: A.K. Sawhney, 'Electrical & Electronic Measurements and Instrumentation', Dhanpat Rai & Co (P) Ltd.

Reference Books:

1. E.W.Golding&F.C.Widdis, 'Electrical Measurements & Measuring Instruments', A.H.Wheeler& Co.
2. Albert D. Helfrick& William D. Cooper, 'Modern Electronic Instrumentation & Measurement Techniques', Prentice Hall of India, .
3. Joseph. J. Carr, 'Elements of Electronic Instrumentation & Measurements', III edition, Pearson Education.
4. Bouwens, A.J., "Digital Instrumentation", McGraw Hill

4EE03/4EX03 POWER SYSTEM – I

Course Outcomes:

At the end of the course the student should be able to:

1. Calculate the transmission line parameters like resistance, inductances and capacitances.
2. Explain the various configurations of line conductors and their effects on the line parameters.
3. Estimate the electrical characteristics of transmission lines and hence to evaluate the performance of the lines.
4. Draw the single line diagram of any electrical system.
5. Perform the per unit calculation of any electrical system.
6. Apply knowledge of voltage control and power factor improve methods practically.
7. Perform the load flow or power flow methods to any electrical system.
8. Design HV, EHV lines, insulators used.
9. Evaluate the mechanical parameters of line supports.
10. draw the various underground cable configurations and to calculate their electrical parameters.

Unit I
Transmission line parameters: Calculation of resistance, inductance and capacitance of single phase and three phase transmission lines, skin effect and proximity effect, transposition, G.M.D. & G.M.R. methods, double circuit lines, bundled conductors, effect of earth on capacitance, interference with communication lines.

Unit II
Electrical characteristics of transmission line : V-I characteristics of short, medium and long lines, A, B, C, D constants, nominal Π and nominal T representations, Ferranti effect, corona phenomenon, effect of corona. Representation of power systems: per unit system and one-line reactance diagrams

Unit III

Voltage control and power factor improvement: Receiving and sending end power circle diagrams, methods of voltage control and power factor improvement, use of static VAR generators and synchronous phase modifiers.

Unit IV

Load flow studies: Load flow problem, classification of buses, network modelling, Y-bus matrix, load flow equation, Gauss-Seidel and Newton-Raphson methods, and comparison of these methods.

Unit V

Mechanical design: Materials used, types of insulators, comparison of pin type and suspension type insulators, voltage distribution and string efficiency, methods of increasing string efficiency, grading rings and arcing horns. Line supports for LV, HV and EHV, sag calculation.

Unit VI

Underground cables: Material used for conductor & insulation, different types of cables and their manufacture, parameters of underground cable, grading of cable.

Text Book: C.L.Wadhwa, Engineering Electrical Power Systems, , 6th Edition 2010, New Age International Pub.

Reference Books:

1.Power System Engineering by D.P.Kothari, I.J.Nagrath TMH 2nd edition, 9th reprint 2010.
2.Power System Analysis, N.V.Ramana, PEARSON education, 2010.
3.Power System Analysis, Arthur R. Bergen, Vijay Vittal,2nd Edition, 2009, Pearson Education.

4EE04/ 4EP05 /4EX04 ANALOG AND DIGITAL CIRCUITS

Course Outcomes:

After completing the course, students will be able to

1. Explain the principles of operational amplifiers, parameters of op-amp
2. Illustrate the linear and nonlinear applications of op-amp
3. Demonstrate the knowledge of Voltage regulator and Timer ICs
4. Describe the working of Logic families andtheir applications.
5. Demonstrate the knowledge of combinational and sequential circuits and its application

Unit I:

Introduction to IC's: Operation amplifier; Block schematic internal circuits, Level shifting, overload protection, study of IC 741 op-amp, Measurement of op-amp parameter.

Unit II:

Linear and Non-linear Application of Op-amp: Inverting and non inverting amplifiers, voltage follower, integrator, differentiator differential amplifier, op amp as adder subtractor, op amp as a log and antilog amplifier

Sinusoidal RC-phase shift and Wein bridge oscillators, clipping, clamping and comparator circuits using op-amps.

Unit III:

Other linear IC's : Block schematic of regulator IC 723, and its applications, study of 78XX, 79XX and its applications, SMPS, Block schematic of timer IC 555 and its applications as a timer, a stable, mono stable, bistable multivibrator and other applications, Operation of phase lock loop system and IC 565 PLL, its application.

Unit IV:

Basic Logic Circuits : Logic gate characteristics, NMOS inverter, propagation delay, NMOS logic gate, CMOS inverter, CMOS logic gates, BJT inverter, TTL, NAND gate, TTL output, state TTL logic families, ECL circuits, composition logic families.

Unit V:

Combinational Digital Circuits: Standard gate assemblies, Binary adder, Arithmetic functions, Digital comparator, Parity check generator, Decoder / demultiplexer, Data selector / multiplexer, Encoder

Unit VI:

Sequential Circuits and Systems: Bistable Latch, Flip-Flop clocked SR,J-K, T, D type shift Registers, counter. Design using filp-flops, Ripple and synchronous types, application of counters

Text Book: Millman, Microelectronics, 2nd Ed., McGraw Hill.

Reference Books:

1. Gayakwad, Op-Amp & LLG, 2nd Ed.
2. Malvino& Leach, Digital Principles & Applications, 4th Ed., McGraw Hill.
3. K.B.Botkar, Integrated Electronics (Khanna Publishers.)

4EE05/4EX05 SIGNALS & SYSTEMS

Course Outcomes:

After completing the course, students will be able to

1. Understand importance and applications of signals and systems
2. Classify Systems into various categories
3. Perform convolution of Analog and Discrete time signals
4. Convert Analog signal into discrete signal by using Sampling Method
5. Apply CTFT,Z-Transform, DTFT, FFT for the analysis of Various Signals and Systems

SECTION-A

Unit-I :

Introduction to Signals and Systems: Signals and Systems, Classification of Signals, Classification of Systems, Some Ideal Signals, Energy and Power Signals, Discretization of Continuous-Time Signals, Analysis of Continuous-Time Systems, Time Domain, Properties of Elementary Signals Linear Convolution Integral, Response of Continuous-Time Systems.

Unit-II :

Fourier series and Its Properties Fourier Transform Properties of Fourier Transform, Tables of Fourier Transform Pairs Fourier Transform of Periodic Signals, Frequency-Domain Analysis of Systems Fourier analysis of Sampled Signals

Unit-III :

Analysis of LTI Discrete-Time Systems: Time Domain and Frequency Domain, Properties of Discrete-Time Sequences Linear Convolution, Discrete-Time System Response.

SECTION-B

Unit-IV :

Sampling: Representation of a continuous–Time Signal by its Samples; The Sampling Theorem; Reconstruction of Signals form its Samples using Interpolation; Effect of Under Sampling (Frequency Domain Aliasing); Discrete Time processing of Continuous–Time Signals

Unit-V :

The Z Transform: The Z Transform; The Region of Convergence for the Z- Transform; Geometric Evaluation of the Fourier Transform from the Pole-Zero Plot; Properties of Z-Transform; Analysis and Characterization of Discrete-Time LTI Systems using Z-Transform; System Transfer Function; Block Diagram Representation; The Unilateral Z-Transform; Solution of Difference Equation using the Unilateral Z-Transform.

Unit-VI :

Discrete Fourier Transform and Fast Fourier Transform Representation of Discrete-Time aperiodic signals and the Discrete-Time Fourier Transform; Fourier Transform for Periodic Signals; Properties of the Discrete-Time Fourier Transform; Discrete-Time LTI Systems and Discrete-Time Fourier Transform

Books Recommended:

1. Signals and systems, Oppenheim and Schafer Prentice Hall India of India 2nd Edition 1997

2. Principles of Linear Systems & Signals, 2E (international version) – Lathi B. P. Oxford University Press

3. Signals &Systems, Smarajit Ghosh, PEARSON education, 2006.

4. Signals And Systems , S. Haykin, 2nd Edition, John Wiley And Sons 1999.

5. Analog And Digital Signal Processing , Ambardar A, 2/3; Thomson Learning-2005.

4EE07/ 4EP06 /4EX0 ELECTRICAL MEASUREMENTS & INSTRUMENTATION - LAB

Minimum Eight experiments based on the syllabus content of 4EE02/4EP02/4EX02Electrical Measurements & Instrumentation. The intensive list of experiment is given below.

1. Measurements of Low resistance by using Kelvin double Bridge.
2. Measurements of Medium resistance by Ammeter Voltmeter method/Wheatstone Bridge
3. Measurement of High resistance by Loss of Charge method.
4. Measurement of Insulation resistance by using Megger
5. Measurement of unknown Inductance using Maxwell Bridge/Hay Bridge/Anderson Bridge
6. Measurement of Unknown Capacitance by Desauty Bridge/Schering Bridge
7. Measurement of frequency using Wien Bridge
8. Extension of range of ammeter using shunt/CT.
9. Extension of range of voltmeter using multiplier/PT.
10. Calibration of Wattmeter by Phantom loading
11. Calibration of energy meter to detect the error in it.
12. Measurement of active & reactive power measurement in 1 phase / 3 phase circuit.
13. Measurement of rotational speed using stroboscope
14. Conversion of non electrical quantity into its equivalent electrical quantity using proper transducer.
15. Compare the accuracy, preciseness, sensitivity of Analog & Digital Measuring Instruments.

4EE08/4EX07 POWER SYSTEMS I - LAB

Minimum Eight experiments based on the syllabus content of 4EE03/4EX03 Power System – I

The intensive list of experiment is given below.

1. To study the performance of a transmission line (using a nominal T and π methods).
2. To calculate A,B,C,D parameters for a transmission line by using nominal T method (either using model or simulation).
3. To calculate A,B,C,D parameters for a transmission line by using nominal π method (either using model or simulation).
4. To study skin effect, proximity effect and Ferranti effect in transmission line.
5. To study Corona phenomenon and corona loss and its control in transmission line.
6. To study conversion of single line diagram to impedance diagram and reactance diagram for a typical power system.
7. To draw the circle diagram for a typical power system.
8. Study of a tap changing transformer (ON and OFF load tap changing).
9. Study of static VAR generator and synchronous condenser.
10. Load flow study for a typical power system (A simulation).
11. To study different types of insulators used in power system.
12. To conduct a dry and wet test on a pin type insulator.
13. To conduct a flashover test on a suspension type insulator.
14. To study a horn gap.
15. To study different types of power cables.
16. To study testing of cables.

Note: One may use models, simulation, numerical, drawing sheets or Experimentation for conducting the above experiments.

4EE09/ 4EP08 /4EX08 ANALOG AND DIGITAL CIRCUIT - LAB

Minimum Eight experiments based on the syllabus content of 4EE04/ 4EP05 /4EX04Analog & Digital Circuit. The intensive list of experiment is given below.

1. To Plot Frequency Response Of Non-Inverting Mode Of Op-Amp Using IC741 and Determine the Bandwidth & Maximum Gain
2. To Plot Frequency Response Of Inverting Mode Of Op-Amp Using IC741 and Determine the Bandwidth & Maximum Gain
3. To Perform Op-Amp as Differentiator Using IC741 .
4. Design The Circuit for Supplying 5V,25mA As A Low Voltage Regulator Using IC 723
5. Verification Of Truth Table Of Various Logic Gates Using ICs
6. To Study and Verify The Operation Of SR and MS ,JK Flip Flop
7. To Verify The Operation Of Multiplexer Using IC74153.
8. To Design And Verify Function Of Decade Counterusing IC 7490
9. To Verify The Truth Table Of 4 Bit Comparator

10. To Perform Op-Amp As Integrator Using IC741
11. A stable Multi-vibrator Using IC 555timer
12. To Study And Verify The Operation Of Half-Adder And Full-Adder

4EE10/ 4EP09 /4EX09 ELECTRONIC TECHNOLOGY - LAB

Perform **Minimum Eight** experiments / demonstration based on the following contents and prepare the report as a term work for this laboratory.

- **Study of electronic Components:** Identification of components, name, types, symbol, size, rating and application.
- **Handling Electronic Components:** Finding values and testing (using DMM), test working condition, fault detection.
- **Working with breadboards:** understanding the breadboards for component mounting, working with small circuits on breadboard
- **Soldering:**Soldering skill tips- use of proper soldering Iron, Metal, Flux**,** Cleaning, Tinning etc., mounting components on zero PCB, testing of small circuits mounted on zero PCB. De-soldering of components
- **PCB Layout and design:** Understanding different PCBs, Working on PCB Layout (Software), PCB etching, drilling on PCB, Mounting components on PCB, Working with small circuits on PCB and their testing
- **Electronic circuit Simulation:** Familiarizing with the simulation software, simulation and result validation of simple circuit with software.

****

SYLLABUS OF SEM. III & IV B.E. (ELECTRICAL & ELECTRONICS ENGG.)

Semester-III

3EE01/3 EP01/3EX01 ENGINEERING MATHEMATICS -III

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Demonstrate the knowledge of differential equations and partial differential equations, applied to electrical engineering systems.
2. Apply Laplace transform to solve differential equations.
3. Demonstrate the use of Fourier Transform to connect the time domain and frequency domain.
4. Apply Z Transform to solve of various Linear Difference equations with constant coefficients.
5. Apply the knowledge of vector calculusto solve physical problems.
6. Demonstrate the basic concepts of probability and statistics.

UNIT-I:
(a) **Statistics:**Introduction, Curve fitting by method of least square, change of scale, fitting of straight line and parabola, correlation, regression. Application of statistics to electrical engineering.

(b) **Probability**: Axioms, conditional probability, Bay'stheorem,mathematical expectations, probability distributions:Binomial, Poisson and Normal.Application of probability to electrical engineering.

UNIT-II:
(a)Partial differential equation (PDE)of first order and first degree of following type-

(i) f (p, q) = 0; (ii) f (p, q, z) =0; (iii) f (p, q, x, y) = 0; (iv) Pp + Qq =R (Lagrange's Form); (v) Clairaut form Z = px + qy + f(p, q) . Applications of PDE to electrical circuits.

(b)DifferenceEquation: -Solution of difference equations of first order, solution of difference equations of higher order with constant coefficient.Applications of difference equations to electrical engineering.

Unit III:

1. Axial flow pump :- Basic theory, construction, & operation.
2. Other water lifting devices :- (a) Air lift pump. (b) Jet Pump. (c) Hydraulic Ram.
3. Computational Fluid Dynamics (CFD)
4. Introduction to CFD: Necessity, limitations, philosophy behind CFD, applications (6 Hours)

SECTION - B

Unit IV : Positive Displacement and other Pumps: Reciprocating pump theory, Slip, Indicator diagram, Effect of acceleration, air vessels. Comparison of centrifugal and reciprocating pumps, performance characteristics. (9 Hours)

Unit V : Compressible fluid flow :- Perfect gas relationship, speed of sound wave, mach number, Isothermal and isotropic flows, shock waves. (8 Hours)

Unit VI : Hydraulic accumulator, Hydraulic intensifier, Hydraulic Press, hydraulic crane, hydraulic lift, hydraulic coupling, hydraulic torque converter. (8 Hours)

BOOKS RECOMMENDED :-

Text Books:-

1. CSP Ojha, R. Berndtsson, Fluid mechanics and machinery; Oxford University.
2. Bansal R.K., Fluid mechanics and fluid machines; Laxmi publications.

Reference Books:-

1. Jagdish Lal, Hydraulic machines; Metropolitan Book Co. Pvt. Ltd.
2. Dr. Modi & Seth, Hydraulics and Fluid Mechanics; Standard house book.
3. Sen gupta, Computational fluid dynamics; Pearson Publishers.
4. Sameer sheikh, Iliyas Khan, Treaties on Hydraulics; Pneumatics, R.K. Publication.

4ME10 HYDRAULIC & PNEUMATIC SYSTEMS - LAB

List of Practicals:- At least **SIX** (6) practicals based on following :

1) Trial/Study of Pelton wheel
2) Trial/Study of Francis Turbine
3) Trial/Study of Kaplan Turbine
4) Trial/Study of centrifugal pump
5) Trial/Study of reciprocating pump
6) Trial/Study of axial flow pump
7) Trial/Study of hydraulic ram
8) Trial/Study of multistage pump
9) Trial/Study of special pumps (air lift pump/ jet pump)
10) Trial/Study of Gear pump
10) Any one practical based on CFD software

Note : Practical Examination : Practical examination shall consist of Viva Voce/performance based on above syllabus & practical work.

****

SYLLABUS OF SEM. III & IV B.E. (ELECTRONICS & TELECOMMUNICATION ENGG.)

Semester-III

3ETC1 - ENGINEERING MATHEMATICS-III

Course Requisite: 1. (IA1) Engineering Mathematics-I 2. (IB1) Engineering Mathematics-II

Course Objectives:

1. To deal with linear differential equations.
2. Understand Laplace transforms .
3. Introduction to geometry of curves, two and three-dimensional regions and calculus of vector valued functions.
4. To equip students with necessary knowledge and skills to enable them to handle mathematical operations of complex analysis .

5. . Understand the computational details behind certain numerical methods and their convergence.
6. To deal with system of differential and difference equations in the study of electrical/electronic and systems.

Outcomes: After successfully completing the course, the students will be able to

1 . Demonstrate the knowledge of differential equations to solve engineering problems of analog systems.
2 . Apply Laplace transform to solve differential equations.
3. Apply knowledge of vector calculus.
4. Comprehend knowledge of complex analysis in terms of complex variables, harmonic functions and conformal mapping.
5. Apply numerical methods to obtain approximate solutions to mathematical problems.
6. Identify and solve certain forms of partial difference equations as applied to discrete systems.

SECTION - A

Unit-I : Ordinary Differential Equations: - Complete solution, Operator D, Rules for finding complementary function, the inverse operator, Rules for finding the particular integral, Method of variations of parameters, Cauchy's and Legendre's linear differential equations. (7)

Unit-II: Laplace transforms: definition, standard forms, properties of Laplace transform, inverse Laplace transform, Laplace transform of some basic functions, initial and final value theorem, convolution theorem, Solution of linear differential equations using Laplace transform. (7)

Unit III : Vector Calculus: - Scalar and Vector point functions, Differentiation of vectors, Curves in space, Gradient of a scalar point function, Directional derivatives, Divergence and curl of a vector point function and their physical meaning, expansion formulae (without proof), irrotational and solenoidal vector fields. Fourier transforms: Fourier sine and Fourier cosine transforms and integrals . (7)

SECTION- B

Unit IV : Complex Analysis: - Functions of complex variables, Analytic function, CauchyReimann conditions, Harmonic function, Harmonic conjugate functions, Milne's method. Conformal Mappings: Translation, Rotation, Magnification, Inversion and Bilinear Transformation, expansion of function in Taylor's and Laurent's series. (7)

Unit V : Numerical Methods: Solution of Nonlinear and Polynomial Equations : False Position, Newton Raphson Method. Solution of Linear Systems Equations: Gauss Elimination method, Gauss Seidel Iterative Method, Relaxation method Solution of Differential Equations: Euler's method, Runge-Kutta method, Picards method. (7)

Unit VI : (a) Difference Equation:- solution of difference equations of first order, solution of difference equations of higher order with constant coefficient.
(**b) Partial differential equation of first order of following form-** (i) f (p, q) = 0; (ii) f (p, q, z)=0; (iii) f(x, p) = g (y, q); (iv) Pp + Qq =R (Lagrange's Form); (v) Z=px+qy+f(p, q) (Clairaut form) (7)

Text Books:

1. Elements of Applied Mathematics by P. N. Wartikar and J. N. Wartikar. Poona Vidhyarthi Publisher
2. Higher Engineering Mathematics by B.S.Grewal. Khanna Publishers
3. Introduction to method of Numerical Analysis- S. S. Shastry, Second Edition, PHI Pvt. Ltd.,New Delhi.

References:

1. A Mathematical Companion for Science and Engineering Students – Brettenbach, Oxford University Press, 2008
2. Advancing Engg. Mathematics, E.K.Kreyzig, John Wiley
3. Numerical Method for Mathematics Science and Engineering, John H. Mathew, PHI 4. Numerical Methods - Principles, Analysis & Algorithms Pal, Oxford.

3ETC02 - Electronic Devices & circuits Max. Marks: 80

Course Requisite:

1. Engineering Physics

Course Objectives:

1. To understand detail analysis of Electronic devices.
2. To understand use of electronic devices for various applications in Electronic circuits.
3. To analyze various electronic circuits.

Course Outcomes:

After successfully completing the course, the students will be able to

1. Comprehend the knowledge of diode and its applications in rectifier and regulator circuits.
2. Understand basics of BJT, JFET, MOSFET, UJT and their operational parameters.
3. Understand feedback concept, topologies and their applications.
4. Implement and analyze various electronic circuits.

	Subject: Electronic Devices & circuits	L
Unit-1	**PN junction diode:** Formation of p-n junction, biasing the diode, current equation and V-I characteristics of diode, static and dynamic resistance, Analysis of Half Wave Rectifier (HWR), Full Wave Rectifier (FWR), introduction to filters C, L,LC and CLC filters, working of diode as a Switch, Zener diode and its application as voltage regulator.	06
Unit-2	**Waveshaping:** Analysis of RC low pass, and high pass filters for Sinusoidal, Step, Pulse, Square signal, analysis of clipping and clamping circuits using diodes.	06
Unit-3	**Bipolar Junction Transistors:** Operation of PNP and NPN transistor, CB, CE and CC configurations with characteristics and parameters, transistor as a switch, Transistor switching times, dc load line, transistor biasing methods, bias stability, Introduction to voltage divider biased CE amplifiers using h-parameter model.	06
Unit-4	**Feedback amplifiers**: Feedback concept, effects of negative feedback, basic feedback topologies **Sinusoidal oscillators**: Barkhausen's criteria, Hartley, Colpitts, RC Phase shift, Wein bridge and crystal oscillators.	06
Unit-5	**Multistage Amplifiers**: Need of multistage, direct coupled amplifier, RC coupled amplifier, transformer coupled amplifier, emitter follower, Darlington emitter follower, bootstrapping principle (analysis not expected).	06
Unit-6	**JFET:** Theory, construction and characteristics: parameters (μ, gm & rd) **MOSFET**: Theory, construction and characteristics of enhancement & depletion type MOSFET. **UJT:** Theory, construction and characteristics; UJT as relaxation oscillator.	06
	Total	**36**

Text Books:

1. David Bell: Electronic Devices and Circuits, Oxford University Press, 2010.
2. Milliman and Halkias: Integrated Electronics, Tata McGraw Hill, New Delhi.

References:

1. Robert L.Boylestad, "Electronic Devices and Circuit theory", Publ. Pearson Education.
2. Floyd, "Electron Devices" Pearson Asia 5th Edition, 2001.
3. Donald A Neamen, "Electronic Circuit Analysis and Design" Tata McGraw Hill, 3rd Edition, 2003.

3ETC06 - ELECTRONIC DEVICES AND CIRCUITS - LAB

Course Requisite:

1. Engineering Physics
2. 3ETC02 Electronic Devices and Circuits

Course Objectives:

1. To verify characteristics of various semiconductor devices.
2. To determine and verify various performance parameters of electronic devices and circuits.
3. To provide basic experimental exposure about operation and applications of electronic devices.

Course Outcomes:

1. Acquiring basics of parameters and operation of various semiconductor devices.
2. Implementation of basic circuits using electronic devices.
3. Verification and analysis of performance of electronic circuits.

List of Experiments :

Experiment No.	Aim of Experiment
Expt - 1	To verify V-I characteristics of p-n junction diode and obtain static and dynamic resistance values.
Expt – 2	To calculate efficiency and ripple factor of Half wave, Full wave and Bridge wave rectifier.
Expt - 3	To study different types of filter circuits and calculate its ripple factor for C-filter.
Expt - 4	To study Zener diode as a voltage regulator.
Expt – 5	To observe the response of RC Low pass circuit for a square wave input for different time Constant i) RC >>T ii) RC = T iii) RC <<T.
Expt - 6	To observe the response of RC High pass circuit for a square wave input for different time Constants i) RC>>T ii) RC = T iii) RC<<T.
Expt – 7	To obtain output characteristics of the clipping circuits for different reference voltages and to verify the responses.
Expt – 8	To study and observe the performance of various clamper circuit.
Expt – 9	To verify characteristics of CE mode of BJT and compute its parameters such as gain(β),input and output Impedance.
Expt – 10	To compare calculate and observe frequency response of oscillations of 3 stage RC phase shift oscillator.
Expt - 11	To compare calculate and observe frequency response of oscillations of RC Wein Bridge oscillator.
Expt – 12	To plot frequency response of RC coupled amplifier and determine its bandwidth.
Expt – 13	To plot frequency response of Transformer coupled amplifier and determine its Bandwidth.
Expt – 14	To sketch the drain and transfer characteristics of n-channel JFET and determine ac drain resistance, trans-conductance and amplification factor
Expt – 15	To sketch V-I characteristics of UJT and determine Intrinsic stand-off ratio
Expt – 16	To analyze the response of Rectifier, Amplifier, Oscillator, using simulation software.

* Minimum 08 experiments should be conducted out of above enlisted.

******

3ETC03 - DIGITAL SYSTEM DESIGN Max. Marks: 80

Course Requisite:

1. Engineering Physics

Course Objectives:

1. To study basic concepts of Boolean algebra, number systems and codes.
2. To study techniques of minimization of Boolean expression.
3. To study the formal procedures for the analysis and design of combinational circuits.
4. To study the formal procedures for the analysis and design of sequential circuits.
5. To learn digital logic families, Programmable logic Devices.
6. To learn the semiconductor memories and mapping.

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Use Boolean algebra to solve logic functions, minimization techniques, number systems and its conversion, arithmetic functions.
2. Identify, analyze and design combinational and sequential circuits.
3. Understand digital logic families and their characteristics.
4. Use the knowledge of semiconductor memories and mapping of memories, programmable logic devices in digital design.

	Subject: DIGITAL SYSTEM DESIGN	L
Unit-1	**Number systems and codes:-** Number system and their conversions, BCD codes, Octal codes, Hexadecimal codes, Excess-3 code, Gray Code, Arithmetic Operations using 1's complement and 2's complement Introduction, Basic Digital Circuits: AND, OR, NOT, NAND, NOR, Ex-OR, Ex-NOR.	06
Unit-2	**Logic gates, Boolean Algebra and Minimization Techniques:-** Boolean Algebra, Demorgans Theorem, Simplifications using Boolean Algebra , SOP and POS form, K-map representation and minimization of logical functions upto 4 variables, don't care conditions, Quine McCluskey method.	06
Unit-3	**Combinational logic design using 74XX/54XX MSI chip:-** Adders, Subtractors, 4-bit parallel adder, look ahead carry BCD adder, MUX, DEMUX, Decoders, Encoders, Code Converters, Comparators, Parity Generator/Checker, BCD to 7 segment decoder, combinational logic design using ROM, PLA, PAL.	06
Unit-4	**Flip-flops, Registers and Counters:-** S-R, J-K, Master slave J-K, D-type, T-type. Shift Registers: Mode of operations of shift registers, Universal Shift Register. Counters: Asynchronous and Synchronous counter, up/down counter, MOD-N counter, Ring counter, Johnson counter, Frequency Division Counter.	06
Unit-5	**Logic families and Memories:-** TTL NAND gate, specification noise margin, propagation delay, fan-in, fan-out, tri-state TTL, ECL, CMOS. Semiconductor Memories: - RAM, ROM, EPROM, EEPROM, SRAM, DRAM.	06
Unit-6	**Analysis of Clocked Sequential Networks**:- Moore and Mealy Machine, State table, State Assignment, State Reduction, State Transition diagram, Sequence Generator, Sequence Detector.	06
	Total	**36**

Text Books:

1. M.Morris Mano and M.D.Ciletti, "Digital Design", Pearson Education.
2. R P Jain, "Modern Digital Electronics", TMH.

Reference Books:

1. Wakerly, "Digital Design: Principles and Practices", 3rd edition, Pearson Education, 2004.
2. Charles H. Roth, "Fundamentals of Logic Design", 4th Edition, Jaico Publication
3. Lee S.C, "Digital Circuits and Logic Design", PHI
4. Richard S. Sandige, "Modern Digital Design", McGraw-Hill Series in Electrical Engineering.

3ETC07 - DIGITAL SYSTEM DESIGN - Lab

Course Requisite:

1. Engineering Physics lab

Course Objectives:

1. To impart the concepts of digital electronics.
2. To provide students basic experimental experiences in the operation of various digital logic Families.
3. To learn the operation of various logic gates and their implementation using digital IC's.
4. To learn the realization of various combinational and sequential circuits.
5. To learn Semiconductor memories and mapping.

Course Outcomes:

After successfully completion of the lab course the students will be able to:

1. Apply practically the concepts of digital electronics.
2. Explain the operation and characteristics of various digital logic families.
3. Understand the operation of various logic gates and their implementation using digital IC's.
4. Design and implement various combinational logic circuits.
5. Design and implement various sequential logic circuits.
6. Design and mapping of various types of memories.

Expt. No.	Experiment List
Expt-1	To study and verify the operation of various digital logic families.
Expt -2	To study and verify the operation of logic gates.
Expt -3	Design and implementation of Adders and Subtractors using logic gates.
Expt -4	Design and implementation of code converters using logic gates.
Expt -5	Design and implementation of multiplexer using logic gates and IC.
Expt -6	Design and implementation of demultiplexer using logic gates and IC.
Expt -7	Design and implementation of code converters using logic gates.
Expt -8	Design and implementation of Magnitude Comparator using logic gates and IC.
Expt -9	Design and implementation of odd/even parity checker /generator using IC.
Expt -10	Implementation of SISO, SIPO, PISO and PIPO shift registers using Flip- flops.
Expt -11	Construction and verification of ripple counters.
Expt -12	Design and implementation of 3-bit synchronous up/down counter

* Minimum 08 experiments should be conducted out of above enlisted.

****

3ETC04 - ELECTROMAGNETIC WAVES Max. Marks: 80

Course Requisite:

1. Engineering Mathematics-I
2. Engineering Mathematics-II
3. Engineering Mathematics-III

Course Objectives:

The objectives of the course are,

1. To introduce basic mathematical concept of coordinate system and vector integrals.
2. To impart knowledge of the basic concepts of electric fields.
3. To impart knowledge of the basic concepts of magnetic fields.
4. To understand the Maxwell's Equations for Electric & Magnetic Field, Boundary conditions and their interpretation.
5. To introduce concept of propagation of electromagnetic waves in free space, conductors and dielectrics.
6. To understand, analyze and evaluate the radiation of electromagnetic wave from theoretical and practical antennas.

Course Outcomes:

At the end of this course students will demonstrate the ability to :

1. Understand the coordinate systems and vector integrals.
2. Evaluate Electric Field Intensity for different charge distributions.
3. Evaluate Magnetic Field Intensity due to current carrying conductors.
4. Understand scientifically about Maxwell's equations & Boundary conditions.
5. Characterize uniform plane wave & can calculate reflection and transmission coefficient of waves at media interface.
6. Understand principle of radiation and radiation characteristics of theoretical & practical antennas.

	Subject: Electromagnetic Waves	L
Unit-1	**Introduction to Vector analysis:** Coordinate systems, Basics of Vectors: Vector products, Projection of vectors, Gradient, Divergence & Curl, Vector integrals, Divergence Theorem & Stokes Theorem.	06
Unit-2	**Electrostatics:** Introduction to Coulomb's law &Electric Field Intensity, Evaluation of Electric Field Intensity due to point charge, line charge & surface charge distribution. Introduction to Electric Flux, Electric Flux Density, Electrostatic potential, Potential gradient &Electric dipole.	06
Unit-3	**Magnetostatics:** Introduction to Biot Savart's law, Ampere's circuital law, Magnetic Field Intensity (without numericals), Evaluation of Magnetic Field intensity due to infinite, finite & circular current carrying conductors. Introduction to Magnetic Flux, Magnetic Flux Density, Magnetic dipole.	06
Unit-4	**Maxwell Equations & Boundary Conditions:** Derivation of Maxwell's Equations for Electric & Magnetic Field (without numericals). Boundary condition at dielectric-dielectric interface, dielectric-conductor interface &Boundary conditions for magnetic materials interface.	06
Unit-5	**Electromagnetic Wave Propagation:** Uniform plane wave, Propagation of wave, Formulation of wave equation in free space, dielectric &conducting medium, Skin depth, Poynting Theorem, Reflection and refraction of electromagnetic waves with normal incidence at dielectric interface.	06
Unit-6	**Radiation:** Scalar & Vector magnetic potential, Retarded Potential, Radiation of Electromagnetic wave from the Hertzian Dipole ,Quarter wave Monopole and Half-wave Dipole antennas.	06
	Total	**36**

Text Books:

1. William H.Hayt,Jr and John A.Buck., "Engineering Electromagnetics", Tata McGraw-Hill Publishing Ltd.
2. E.C. Jordan & K.G. Balmain, Electromagnetic waves & Radiating Systems, Prentice Hall, India

Reference Books :

1. R.K. Shevgaonkar, Electromagnetic Waves, Tata McGraw Hill India, 2005
2. Narayana Rao, N: Engineering Electromagnetics, 3rd ed., Prentice Hall, 1997. 4. David Cheng, Electromagnetics, Prentice Hall Course

3ETC05: OBJECT ORIENTED PROGRAMMING Max. Marks: 80

Course Requisite:

4. Computer Programming

Course Objectives:

1. To learn object-oriented concepts and build simple applications using C++ and Java.
2. To understand the basic concepts and techniques which form the object-oriented programming paradigm

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Justify the basic concepts of object-oriented programming such as data types, functions, classes, objects, constructors, inheritance, overloading etc.
2. Design, implement, test, and debug simple programs in C++.
3. Describe how the class mechanism supports encapsulation and information hiding.
4. To know the concept of operator overloading
5. Understand inheritance in C++
6. Design and test the implementation of Java programming concepts

	Subject: OBJECT ORIENTED PROGRAMMING	L
Unit-1	Principles of object-oriented Programming: OOP'S paradigm, basic concept of OOP'S, benefits of OOP'S, Four pillars of OOP, structure of C++ programming, basic data types.	06
Unit-2	User defined data type, derived data type, Abstract data types in C++, operators and control statement, Functionsin C++: Functions, Function over loading, Friend Functions and virtual functions.	06
Unit-3	Classes and objects in C++: Types of classes and its use, concept of object and its implementation, constructor and destructors.	06
Unit-4	Operator and their definition, overloading unary and binary operator, rules for overloading operators, overloading binary operators using friends and string manipulation.	06
Unit-5	Inheritance in C++: Extending classes: Multilevel Inheritance, Multiple inheritances, Hierarchical inheritance, Hybrid inheritance, Virtual base classes and Abstract classes.	06
Unit-6	Introduction to Java programming, JVM, Java programming constructs: variables, primitive data types, identifier, literals, operators, expressions, primitive type conversion and casting, Basics of classes, objects, creating objects, and methods in Java.	06
	Total	**36**

Text Books:

1. E Balagurusamy, "Object Oriented Programming Using C++ and JAVA", Tata McGraw-Hill.
2. E Balagurusamy, "Object Oriented Programming Using C++" ,Tata McGraw-Hill.

Reference Books :

1. Bjarne Stroustrup, "C++ Programming Language", Pearson Education.
2. H.M.Dietel and P.J.Dietel, "Java How to Program" Pearson Education/PHI, Sixth Edition.
3. Robert Lafore, "Object-Oriented Programming in C++ ", Pearson Education India, (4th Edition).
4. Herbert Schildt , "Java : The Complete Reference" Tata McGraw-Hill (7th Edition).
5. Yeshwant Kanetkar "Let us C++", BPB Publications.
6. Dr. N.B. Vekateswarlu, Dr. E.V. Prasad, "Learn Object Oriented Programming Using Java: An UML Based", S. Chand Publication.

3ETC08 : OBJECT ORIENTED PROGRAMMING -LAB.

Course Requisite:

1. Computer Programming
2. 3ETC05 Object Oriented Programming

Course Objectives:

1. Design, implement, test, and debug simple programs in an object-oriented programming language.
2. Design and test the implementation of C++ programming concepts.
3. Design and test the implementation of java programming concepts.

Course Outcomes:

After successfully completing the course, the students will be able to

1. Justify the basics of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism.
2. Design, implement, test, and debug simple programs in an object-oriented programming language.
3. Describe how the class mechanism supports encapsulation and information hiding.
4. Design and test the implementation of C++ and java programming concepts.

List of Experiments :

Experiment No.	Aim of Experiment
Expt - 1	Write a C++ program to swap two variables a) Using third variable b) Without using third variable.
Expt – 2	Write a program in C++ to print the area and perimeter of a rectangle.
Expt - 3	Write a C++ program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.
Expt - 4	Develop programs to implement the concepts of classes and object, accessing members: e.g. a. Design an EMPLOYEE class to contain Data members: Employee_Number, Employee_Name, Basic_Salary, All_Allowances, IT, Net_Salary. Member functions: to read the data of an employee, to calculate Net_Salary and to print the values of all the data members.
Expt – 5	Write a program in C++ to implement parameterized constructor and copy constructor.
Expt - 6	Write a C++ program to implement function overloading.
Expt – 7	Write a program in C++ illustrating the use of virtual functions in a class.
Expt – 8	Write a C++ program to overload unary operator for inverting the value of data variable using member function.
Expt – 9	Write a program in C++ to demonstrate multiple inheritances.
Expt – 10	Write a program in C++ to demonstrate multilevel inheritance.
Expt - 11	Write a program in C++ to implement virtual base class.
Expt – 12	Write a java program to Calculate Circle Area.
Expt – 13	Write a program in Java that reads a number in meters, converts it to feet, and displays the result.

* Minimum 08 experiments should be conducted out of above enlisted.

Semester - IV

4ETC02 - ANALOG CIRCUITS Max. Marks: 80

Course Requisite:

1. (3ETC02) Electronic Devices and Circuits

Course Objectives:

1. To understand the basics and internal structure of Op-Amp.
2. To analyze and design linear and non-linear applications of Op-Amp.
3. To understand and design concepts of voltage regulators.
4. To study and synthesize the waveform generators using IC 555 and IC 565.
5. To demonstrate applications of Op-Amp in temperature monitoring.

Course Outcomes:

After successfully completing the course, the students will be able to

1. Perform evaluation of the switching behavior of semiconductor devices.
2. Comprehend the knowledge of basic concepts and performance parameters of Op-Amp.
3. Use Op-Amp for implementation of linear and non-linear applications.
4. Comprehend the knowledge of PLL, its applications and data converters.

	Subject: Analog Circuits	L
Unit-1	**Operational amplifier** Block diagram of Op-Amp, differential amplifier configurations using BJT, constant current source, level shifting, transfer characteristics, frequency response, study of ICuA741, Op-Amp parameters, Inverting and non inverting amplifiers	06
Unit-2	**Linear applications of Op-Amp:** Theory & Design of scaling, summing, differential amplifier, integrator and differentiator, sinusoidal RC oscillators: RC-phase shift, Wein bridge oscillator using IC 741.	06

Unit-3	**Non Linear Applications of Op-Amp:** Theory & Design of Op-amp IC 741 based comparator, zero-crossing detector, window detectors, Schmitt trigger, astable multivibrator as square and triangular wave generator, monostable multivibrator	06
Unit-4	Design of Voltage regulators using IC 723 and LM 317, Design of instrumentation amplifier, bridge amplifier, temperature Controller/indicator using RTD.	06
Unit-5	Introduction to IC 555, IC 555 based design of Astable, Monostable multivibrator and their applications, A to D converters: Successive approximation & Dual Scope, D to A converters : Weighted Register & R-2R Ladder.	06
Unit-6	PLL: Operation of phase lock loop system, transfer characteristics, lock range and capture range, study of PLL IC LM 565 and its applications as AM detector, FM detector, Design of Butterworth first and second order low pass, high pass, all pass filter, design of notch filter.	06
	Total	**36**

Text Books:

1. R.A. Gayakwad, "OP-AMP and Linear Integrated Circuits", Prentice Hall/ Pearson Education Publications.
2. K R Botkar "Integrated Circuits" Khanna Publications.
3. Sergio Franco, "Design with Linear Integrated Circuits & Op-Amps",TMH Publications.

References:

1. Gray and Meyer, "Analysis and Design of Analog Integrated Circuits", Wiley Intl. Publication.
2. Paul Horowitz, W. Hill, "The art of Electronics", Cambridge Publications.

4ETC07 – ANALOG CIRCUITS LAB

Course Requisite:

1. (3ET3) Electronic Devices and Circuits.
2. (4ETC02) Analog Circuits

Course Objectives:

1. To verify operation of various wave shaping circuits.
2. To demonstrate linear and non-linear applications of Op-Amp.
3. To analyze multivibrator circuits using BJT and Op-Amp.
4. To understand functions and characteristics of PLL.

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Implement wave shaping circuits using passive components, diode and BJT and perform their analysis.
2. Demonstrate linear and non-linear applications of Op-Amp.
3. Implement PLL in certain applications.

List of Experiments :

Experiment No.	Aim of Experiment
Expt - 1	To verify Op-Amp IC 741 as an inverting and non- inverting amplifier with a specific gain value.
Expt – 2	To demonstrate integrator and differentiator circuit using Op-Amp IC 741.
Expt - 3	To verify RC- phase shift oscillator using Op-Amp IC 741.
Expt - 4	To verify Op-Amp IC 741 as a Schmitt trigger and calculate the hysteresis voltage.
Expt – 5	To verify operation of astable multivibrator using Op-Amp IC 741.
Expt - 6	To plot frequency response of first order Butterworth LPF for a specific pass-band gain and cut-off frequency.

Expt – 7 To verify characteristics of PLL.

Expt – 8 Application of PLL as AM detector/FM detector/frequency translator (Any one application)

Expt – 9 Design transistorized series voltage regulator

Expt – 10 Design a low voltage variable regulator to 7 V using IC 723.

Expt - 11 Design of summing amplifier using IC 741.

Expt – 12 Design of Schmitt trigger.

Expt – 13 Design of integrator and differentiator.

Expt – 14 Design of sinusoidal RC phase shift oscillator.

Expt – 15 Design and setup a Wien-bridge oscillator.

Expt – 16 Design the square and triangular wave generator using IC 741.

Expt – 17 Design a Butterworth high pass filter with specifications.

* Minimum 08 experiments should be conducted out of above enlisted.

****

4ETC03 - NETWORK THEORY Max. Marks: 80

Course Requisite:

1. Electrical Engineering.
2. Engineering Mathematics.

Course Objectives:

1. To understand fundamental concepts of Node and Mesh analysis for linear circuits.
2. To study Network Theorems for circuit analysis.
3. To study Graph Theory for network analysis.
4. To apply Laplace Transform Technique for analysis of linear circuits.
5. To study Two Port Network parameters.
6. To study Network Functions.

Course Outcomes:

After successfully completing the course, the students will be able to:

1. Analyze electrical circuits using Mesh and Node analysis.
2. Apply suitable Network Theorem to analyze electrical circuits.
3. Draw oriented Graph of the network to determine their currents and voltages.
4. To implement the concept of Laplace Transform for electrical circuit analysis.
5. To apply Two-Port network theory for electrical network analysis.
6. To evaluate different Network Functions.

	NETWORK THEORY	L
Unit-1	**Node and Mesh analysis**: Circuit components, assumptions for circuit analysis, Sources of electrical energy, Source transformation, Kirchoff's laws, Node and Mesh analysis, Matrix approach of network containing voltage and current sources and reactances, Network equations for RLC networks.	08
Unit-2	**Network Theorems**: Superposition theorem, Reciprocity theorem, Thevenin's theorem, Norton's theorem, Maximum power transfer theorem, Compensation theorem, Tellegen's theorem as applied to AC cicuits.	08
Unit-3	**Graph theory and network equations**: Graph of a network, Trees, cotrees and loops, Incidence matrix, Tie set and Cut set of a network, Analysis of a network using Tie set and Cut set matrix, Network equilibrium equations (without magnetic coupling), Duality.	08

Unit-4	**Network Analysis using Laplace Transform**: Laplace transforms and properties: Partial fractions, singularity functions, waveform synthesis, analysis of RC, RL and RLC networks with and without initial conditions. Initial and Final value theorems.	08
Unit-5	**Two port networks**: Open circuit impedance parameters, Short circuit admittance parameters, Transmission parameters, Inverse transmission parameters, Hybrid and Inverse hybrid parameters, Condition for reciprocity and symmetry of a two port network, Interconnection of two port networks.	08
Unit-6	**Network functions**: Ports and terminal pairs, Network functions, poles and zeros, Necessary conditions for driving point function, Necessary conditions for transfer function, Application of network analysis in deriving functions, Time domain behaviour from pole-zero plot, driving point and transfer impedance functions of LC networks.	08
	Total	**48**

Text Book: D. Roy Choudhary, "Networks and Systems", New Age International.

Reference Books:

1. M. E. Van Valkenburg, "Network Analysis", Prentice Hall,3rd Edition.
2. Sudhakar A., Shyammohan S. P. “Circuits and Network” ; Tata McGraw-Hill New Delhi, 1994
3. W. H. Hayt, J. E. Kemmerly and S. M. Durbin, "Engineering Circuit Analysis", 7th Edition, Tata McGraw-Hill education private Limited, New Delhi.
4. Abhijit Chakrabarti, “Circuit theory, Analysis and Synthesis”,Dhanpat Rai and Co. Pub.

4ETC08 - NETWORK THEORY - LAB

Course Objectives:

1. To apply knowledge of Mesh and Node analysis for a given network.
2. To learn various network theorems and apply them to solve networks.
3. To apply knowledge of Two Port network and Network Functions to analyze given network.

Course Outcomes:

After successfully completion of the lab course the students will be able to:

1. To apply knowledge of Mesh and Node analysis for a given network.
2. To apply various network theorems to solve networks.
3. To apply knowledge of Two Port network and Network Functions to analyze given network.

Expt. No.	Experiment List
Expt-1	To verify Node Analysis for electric circuit.
Expt -2	To verify Mesh Analysis for electric circuit.
Expt -3	To verify Superposition theorem for a given network.
Expt -4	To verify Thevenin’s theorem for a given network.
Expt -5	To verify Norton’s theorem for a given network.
Expt -6	To verify Reciprocity theorem for a given network.
Expt -7	To verify Maximum Power Transfer theorem for a given network.
Expt -8	To determine and verify open circuit (Z) Impedance parameters of a given Two Port network.
Expt -9	To determine and verify short circuit (Y) Admittance parameters of a given Two Port network.
Expt -10	To determine and verify Transmission (ABCD) parameters of a given Two Port network.
Expt -11	To determine and verify Hybrid (h) parameters of a given Two Port network.
Expt -12	To find the driving point Impedance for a given network.
Expt -13	To find the Voltage Transfer Ratio for a given network.
Expt -14	To study RLC series circuit using any simulation Tool.
Expt -15	To study RLC parallel circuit using any simulation Tool.

- Minimum 08 experiments should be conducted out of above enlisted.

4ETC04 – SIGNALS AND SYSTEMS Max. Marks: 80

Course Requisite: Engineering Mathematics-III

Course Objectives:

1. Understand the fundamental characteristics of signals and systems.
2. Understand signals and systems in terms of both the time and transform domains.
3. Develop the mathematical skills to solve problems involving convolution and sampling.

Course Outcomes:

After successfully completing the course, students will be able to

1. Understand the continuous time signals and systems mathematically and their classification along with the mathematical operations that can be performed on them.
2. Understand the spectral characteristics of continuous-time periodic signals using Fourier series.
3. Analyze the spectral characteristics of continuous-time aperiodic signals and systems using Fourier Transform.
4. Apply the Laplace transform for analysis of continuous-time systems.
5. Understand the Discrete Time signals and systems mathematically and understand their classification along with the mathematical operations that can be performed on them.
6. Analyze the spectral characteristics of Discrete Time signals and systems using Discrete Time Fourier Transform.

	Subject: Signals and Systems.	L
Unit-1	**Continuous time signals and systems**: Signal Classification, Energy and Power Signal, Signal Operations, Signal models, Even and Odd functions, convolution, System Classification	06
Unit-2	**Continuous-Time Signal Analysis -The Fourier Series:** Periodic Signal Representation by Trigonometric Fourier Series, Existence and Convergence of Fourier Series, Gibbs Phenomenon, Exponential Fourier Series, Magnitude and phase plots of Fourier coefficients.	06
Unit-3	**Continuous-Time Signal Analysis-The Fourier Transform:** Aperiodic Signal Representation by Fourier Integral, Properties of Fourier Transform, Signal Transmission Through LTIC Systems, Signal energy, Inverse Fourier Transform, plotting Fourier Spectrum.	06
Unit-4	**Continuous-Time System Analysis Using Laplace Transform**: Laplace Transform, Region of convergence, Inverse Laplace transforms Application of Laplace transform for determination of solution of differential equation and System realization up to second order, Frequency response of LTIC system.	06
Unit-5	**Time-Domain Analysis of Discrete-Time Signals & Systems:** Signal Operations, Classification of Discrete-Time Systems, Discrete-Time System Equations, System response to Internal condition, Unit Impulse Response, System response to External Input, Classical Solution of Linear Difference Equations.**Sampling and Reconstruction:** Sampling theorem, signal reconstruction spectral.	06
Unit-6	**Fourier Analysis of Discrete-Time Signals:** Discrete-Time Fourier Series (DTFS), Aperiodic Signal Representation by Fourier Integral, Properties of DTFT, Relationship between DTFT & CTFT.	06
	Total	**36**

Text Books:

1. Lathi B. P., "Principles of Linear Systems and Signals" Second Edition (International Version) Oxford University Press.
2. Alan V. Oppenheim & Alan S. Willsky with S. Hamid Nawab, "Signals & Systems" PHI Publication, Second Edition.

Reference Books:

1. Ambardar A., "Analog And Digital Signal Processing", Thomson Learning-2005.
2. Simon Haykin, Barry Van Veen, "Signals & Systems", IInd Edition, Wiley Pub.
3. Michael J. Roberts, "Signals and Systems Analysis Using Transform Methods and MATLAB", Mc Hill Publication.

4ETC09 – SIGNALS AND SYSTEMS - LAB

Course Requisite:

4ETC04 Signals & Systems.

Course Objectives:

1. To use software to visualize analysis of Signals and System.
2. To manipulate the time signals and identify the type of given system.

Course Outcomes:

1. After successful completion of this course, students will be able to
2. Generate different plots and explore results to draw valid conclusions and inferences in Signal Processing.
3. Enable on how to approach for requirement of signal processing and system design using simulation tools.
4. Familiarize with the concepts of sampling.

List of Experiments :

Experiment No.	Aim of Experiment
Expt - 1	Study of Signal Processing Functions used in MATLAB/SCILAB.
Expt – 2	Program to generate standard continuous Time Signals.
Expt - 3	Program to generate standard discrete Time Signals.
Expt - 4	Program to perform basic operations on Signals.
Expt – 5	Program to find Even And Odd parts of a signal.
Expt - 6	Program to check Periodicity of signals.
Expt – 7	Program to find the Energy and Power of a Signal.
Expt – 8	Program to identify a given system as linear/ non-linear, time variance/ invariance property of a given system.
Expt – 9	Program to demonstrate the time domain sampling of band limited signals (Nyquist theorem).
Expt – 10	Program to find Fourier transform of given signal.
Expt - 11	Implement system equation using Simulnk/Xcos to find output of system for different input signals.
Expt – 12	Find unit step response of system described by transfer function using Simulink/Xcos.

* Minimum 08 experiments should be conducted out of above enlisted.

4ETC05 – VALUES & ETHICS (HS) Max. Marks: 80

Course Requisite:

Course Objectives:

1. Development of a holistic perspective based on self-exploration about themselves (human being), family, society, and nature/existence.
2. Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence
3. Strengthening of self-reflection.
4. Development of commitment and courage to act.

Course Outcomes:

By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind. They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship, and human society). It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.

	Subject: Values & Ethics	L
Unit-1	**Course Introduction - Need, Basic Guidelines, Content and Process for Value Education** Purpose and motivation for the course, recapitulation from Universal Human Values-I, Self-Exploration–what is it? - Its content and process; 'Natural Acceptance' and Experiential Validations the process for self-exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfil the above human aspirations: understanding and living in harmony at various levels.	06
Unit-2	**Understanding Harmony in the Human Being - Harmony in Myself** Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' - happiness and physical facility, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity.	06
Unit-3	**Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship** Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship, Understanding the meaning of Trust; Difference between intention and competence, Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship Incorporating Universal Human Values in Technical Education (An AICTE Initiative), Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals.	06
Unit-4	**Understanding Harmony in the Nature and Existence - Whole existence as Coexistence** Understanding the harmony in the Nature, Interconnectedness, and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.	06
Unit-5	**Implications of the above Holistic Understanding of Harmony on Professional Ethics** Natural acceptance of human values, Definitiveness of Ethical Human Conduct , Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in professional ethics: a) Ability to utilize the professional competence for augmenting universal human order b) Ability to identify the scope and characteristics of people friendly and eco-friendly production systems, c) Ability to identify and develop appropriate technologies and management patterns for above production systems.	06
Unit-6	Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers b) At the level of society: as mutually enriching institutions and organizations. (6 Hrs) Note: Include practice Exercises and Case Studies will be taken up in Practice (tutorial) Sessions eg. to discuss the conduct as an engineer or scientist etc.	06
	Total	**36**

Text Books and Teachers Manual :

1. A Foundation Course in Human Values and Professional Ethics, R.R. Gaur, R. Asthana, G.P. Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-47-1
2. Teachers' Manual for A Foundation Course in Human Values and Professional Ethics, R.R. Gaur, R. Asthana, G.P. Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-53-2

Reference Books:

1. Jeevan Vidya: Ek Parichaya, A Nagaraj, Jeevan Vidya Prakashan, Amarkantak, 1999.
2. Human Values, A.N. Tripathi, New Age Intl. Publishers, New Delhi, 2004.
3. The Story of Stuff (Book).
4. The Story of My Experiments with Truth - by Mohandas Karamchand Gandhi
5. Small is Beautiful - E. F Schumacher.
6. Slow is Beautiful - Cecile Andrews
7. Economy of Permanence - J C Kumarappa
8. Bharat Mein Angreji Raj - PanditSunderlal
9. Rediscovering India - by Dharampal
10. Hind Swaraj or Indian Home Rule - by Mohandas K. Gandhi
11. India Wins Freedom - Maulana Abdul Kalam Azad
12. Vivekananda - Romain Rolland (English)
13. Gandhi - Romain Rolland (English)

****

3. Determination of field density of the soil by sand replacement / core cutter method.
4. Determination of grain size distribution by mechanical sieve analysis.
5. Determination of Atterbergs limits (LL, PL and SL)
6. Determination of Compaction properties (Standard Proctor Test)
7. Determination of permeability of soil by using falling head test
8. Determination of shear strength parameters by direct shear test
9. Determination of unconfined compressive strength of soil.
10. Determination of shear strength parameters by Triaxial list of UU type
11. C.B.R. test. Determination of C.B.R. value by conducting CBR test on soaked sample.
12. Determination of Coefficient of consolidation by conducting consolidation.

****

SYLLABUS OF B.E. [MECH.] SEM. III & IV {C.B.C.S.}

Semester-III
3ME01 MATHEMATICS - III

Course Learning Objectives :

1. To provide the knowledge to solve ordinary Linear Differential equations with constant coefficient and its reducible equation using particular integral and complementary function and apply method of variation of parameter to solve ordinary Linear differential equations
2. To understand the Laplace transform and its inverse transform for the basic functions. Locate the Laplace transform of periodic function. Apply the Laplace transform to solve differential equation
3. To provide knowledge to apply False Position, Newton Raphson method to solve nonlinear & polynomial equations, Apply Gauss Elimination method, Gauss Seidal iterative method, Relaxation method to solve system of linear equations, Apply Eulers method, Runge-Kutta method, Picards method to solve differential equations
4. To understand the Gradient, divergent and curl of vector point functions. To find the directional derivatives of scalar point functions. To discuss the Irrotational and solenoidal vector fields. To define line surface and volume integrals.

Course Outcomes :

Students will be able to -

1. Demonstrate the knowledge to solve ordinary Linear Differential equations with constant coefficient and its reducible equation using particular integral and complementary function and apply method of variation of parameter to solve ordinary Linear differential equations
2. Define the Laplace transform and its inverse transform for the basic functions. Locate the Laplace transform of periodic function. Apply the Laplace transform to solve differential equation
3. Apply False Position, Newton Raphson method to solve nonlinear & polynomial equations Apply Gauss Elimination method, Gauss Seidal iterative method, Relaxation method to solve system of linear equations, Apply Eulers method, Runge-Kutta method, Picards method to solve differential equations
4. Define Gradient, divergent and curl of vector point functions. Finds the directional derivatives of scalar point functions. Discuss the Irrotational and solenoidal vector fields. Define line surface and volume integrals

SECTION-A

UNIT-I : Ordinary differential equations:- Complete solution, Operator D, Rules for finding complementary function, the inverse operator, Rules for finding the particular integral, Method of variations of parameters, Cauchy's and Legendre's linear differential equations. (10 Hrs)

UNIT-II: Laplace transforms : Definition, standard forms, properties of Laplace transform, inverse Laplace transform, initial and final value theorem, convolution theorem, Laplace transform of impulse function, Unit step function, Laplace transforms of periodic function. Solution of Linear differential equations. (10 Hrs)

UNIT-III :a) Partial differential equation of first order of following form- (i) f (p,q)=0; (ii) f (p,q,z)=0; (iii)f (x,p)=g(y,q); (iv) Pp+Qq=R (Lagranges form); (v) z=px+qy+f (p,q) (Clairaut form)
b) Statistics : Curve fitting by method of least squares (Straight and parabola only), Correlation, Regression.
c) Probability Distribution:– Binomial distribution, Poisson and normal Distribution. (10 Hrs.)

SECTION-B

UNIT-IV: Complex Analysis :- Functions of complex variables, Analytic function, Cauchy-Reimann conditions, Harmonic function, Harmonic conjugate functions, Milne's method, conformal mappings (translation, rotation, magnification, inversion, bilinear transformation), singular points, expansion of function in Tayler's and Laurent's series. Cauchy's integral theorem and formula, Residue theorem. (12 Hrs.)

UNIT-V: Numerical Analysis : Solution of algebric and transcendental equations by Newton-Raphson method & method of false position. Solution of system of linear equations by Gauss-Seidal method, Relaxation method. Solution of first order ordinary differential equations by Picard's, modified Euler's, Runge-Kutta and Taylor's method. (10 Hrs.)

UNIT-VI: Vector Calculus :- Scalar and vector point functions, Differentiation of vectors, Gradient of a scalar point function, Directional derivatives, Divergence and curl of a vector point function and their physical meaning, line, surface, volume integrals, irrotational and solenoidal vector fields, Stoke's and Divergence theorem (without proof). (10 Hrs.)

Books Recommended :-

Text Books:

1. Text book on Applied Engineering Mathematics, Vol. II, J.N. Wartikar and P.N. Wartikar, Pune Vidyarthi Griha Prakashan, Pune.
2. Higher Engineering Mathematics, B.S Grewal, Himalaya Publishing House.
3. Applied Mathematics, Vol. III, J.N. Wartikar and P.N. Wartikar, Pune Vidyarthi Griha Prakashan, Pune.

Reference Book : Advanced Engineering Mathematics, Erwin Kreyzig, John Wiley.

3ME02 MANUFACTURING PROCESSES

Course Learning Objectives :

1. To study the manufacturing processes in sand casting industries, tooling and equipment
2. To study the metal melting process, melting furnaces and defects in casting
3. To study the various types of casting processes
4. To study the mechanical working of metals and allied processes
5. To study the mechanical joining processes and fastenings
6. To study welding processes and surface treatment processes

Course Outcomes :

Students will understand the :

1. basic concept of foundry process and related activities
2. concept of complete sand casting process with advance casting methods
3. fundamentals of welding processes
4. various processes like electroplating, anodizing etc and their importance in industries

SECTION- A

Unit-I : Introduction to manufacturing processes & classification; Introduction to pattern making Pattern materials, pattern making tools, allowances, Types of patterns, functions of patterns, General properties of moulding sands, Mold hardness. Preparation of sand moulds of different types, Moulding processes, core making, core prints, core boxes. Sand casting Processes - Basic principle and Terminology of sand casting, design of gating and riser system – by numerical approach. (9Hrs)

Unit-II : Technology of melting and casting - Melting furnaces, crucibles, pit, open hearth, gas fired cupola, cupola operation and electric hearth furnaces, Electric furnaces - Direct Arc, Indirect arc and electric induction furnace.

Defects in castings and its types, Causes and remedies of casting defects. Origin and classification of defects, shaping faults, Inclusion and sand defects, Gas defects, shrinkage defects, contraction defects, dimensional errors. Inspection and testing of castings:- Radiography, ultrasonic, Eddy current testing, fluorescent penetrant test. (7 Hrs)

Unit III: Casting processes and their principle of operation and applications permanent mold casting, slush casting, shell molding, Investment or lost wax casting, vacuum process, centrifugal casting, continuous casting, Die casting equipment and processes for Gravity, pressure and vacuum casting methods, cleaning of castings, Modernisation & Mechanisation of Foundries. (8 Hrs)

SECTION – B

Unit IV: Mechanical working of metals: Principle of hot and cold working process and its types, Extrusion, piercing, pipe and tube production, manufacture of seamless pipe and tubing. Shearing operations, tube drawing, wire drawing, spinning, embossing and coining, squeezing and bending operations, rotary swaging, load estimation for bulk forming (forging and drawing), rolling and types of rolling mills. (8 Hrs)

Unit V: Joining processes:- Mechanical joining processes, Mechanical fastening, riveting, soldering, brazing Welding, Types of welding processes-Arc welding: principle and working, Gas welding- principle and working Types and purpose of Electrodes, Electrode coatings(flux). TIG & MIG processes – Working principles and its applications, shielding gases, MIG-Spray transfer and dip transfer processes. (6 Hrs.)

Unit VI: Submerged arc welding & resistance welding :- Heat generation in resistance welding, operational characteristics of resistance welding processes such as spot welding, projection welding, butt welding.
Principle of operation of friction welding, forge welding, plasma arc, thermit welding. Welding defects, Testing and Inspection of welds, Ultrasonic, Electroslag, Electron Beam, laser welding, weldability.
Surface Treatment-Electroplating, electroforming, and iodising, metal spraying, shot peening, polishing, mechanical cleaning. (9 Hrs)

Books Recommended :

Text Books:-

1. Workshop Technology Vol. I by Bawa, Tata Mc-Graw Hill Publication.
2. Workshop Technology Vol I by Hajra Chaudhary, Dhanpat Rai & Sons 2001.

References:-

1. Workshop Technology Vol I by Raghuwanshi.
2. Manufacturing Processes by J.P. Kaushish; PHI
3. Processes and Materials of Manufacture by R.A.Lindberg, PHI Pub 2001.
4. Manufacturing technology Vol. I, by P. N. Rao.

3ME07 MANUFACTURING PROCESSES - LAB

Practices:-

1. Study of safety precautions in workshop practices.
2. Foundary:- Any two of the following jobs Sand preparation and practice in moulding of various types of patterns:- Pattern making - one job, Moulding - one job Casting - one job.
3. Joining Processes :Two composite jobs involving electric welding, gas welding and resistance welding process.
4. One job on Mechanical Working of Metals like piercing / drawing / bending/ embossing/ spinning/ upsetting, etc.

A journal should be prepared and submitted on above term work.

The practical examination shall consist of a job preparation and college assessment should be based upon the jobs, term work and viva examination.

******

3ME03 MECHANICS OF MATERIALS

Course Learning Objectives :

1. To develop theoretical basis for stress, strain concept in various components under study
2. To study mechanical behavior of engineering material
3. To familiarize about finding shear force, bending moment, torsion, slope and deflection of various types of beams with different loading conditions
4. To build the necessary background to apply the knowledge of mechanics of materials on engineering applications

Course Outcomes :

Students will be able to -

1. Determine the stress & strain in the member subjected to axial, bending & torsional load
2. To observe different types of material behavior such as elastic, plastic, ductile and brittle
3. Apply SF and BM diagrams to analyse resistance offered by the beam and able to solve practical problems in real world
4. Apply deflection criteria to check the stability of beam

SECTION-A

Unit-I: 1. Mechanical properties: Concept of direct, bending and shear stresses and strains, stress-strain relations, Biaxial and triaxial loading, elastic constants and their relationship, stress-strain diagrams and their characteristics for mild steel, and other metals, factor of safety, stress and strain of bar due to self weight.

2. Uniaxial stresses and strains: Stresses and strains in compound bars in uniaxial tension and compression, temperature stresses in simple restrained bars and compound bars of two metals only, introduction to theory of elasticity and photoelasticity. (10 Hrs.)

Unit-II: 1. Axial force, shear force & bending moment diagrams : Beams, loading and support conditions, bending moment and shear force for all types of loadings for simply supported beams, cantilevers, relation between shear force, bending moment and loading intensity.

2. Simple or pure bending theory: Theory of simple bending, section modulus, moment of resistance, bending stresses in solid, hollow and built up section, leaf springs. (7 Hrs.)

Unit-III: 1.Torsion: Theory of torsion & assumptions, derivation of torsion equation, polar modulus, stresses in solid & hollow circular shaft, power transmitted by shaft, closed coiled helical spring with axial load.

2. Shear stress distribution on beam rectangular and circular cross sections. (7 Hrs.)

SECTION – B

Unit-IV: Thin and thick cylinders and thin spherical shells subjected to internal pressures. (4 Hrs.)

Unit –V: 1. Strain energy under uniaxial tension and compression impact loads and instantaneous stresses.
2. Principal Stresses : Biaxial stress system, principal stresses, principal planes, Mohr's circle of stresses.
3. Strain energy and resilience : proof resilience, shear resilience, strain energy due to self load (7 Hrs.)

Unit-VI: Deflection in simply supported beam, cantilever beam subjected to point loads, uniformly distributed loads, moments by Macauley's method. (7 Hrs.)

Books Recommended:

Text Books :

1. Ramamruthm : Strength of Materials, Danpat Rai and Sons, New Delhi .
2. R. S. Khurmi: Strength of Material, S. Chand Publication, Delhi.

Reference Books :

1. E.P.Popov : Mechanics of Materials, Prentice Hall of India, New Delhi.
2. S. Timoshenko and O.H.Young : Elements of Strength of Materials, East West Press Private Ltd., New Delhi.
3. Shames, I. H. : Introduction to Solid Mechanics, Prentice Hall of India, New Delhi
4. Beer and Johston : Mechanics of Materials, McGraw Hill.
5. D. S. Prakash Rao : Strength of Material : A Practical Approach, University Press, Hyderabad.

3ME08 MECHANICS OF MATERIALS - LAB

Practicals:

Minimum Six to Eight out of the following:

1. Tension test on metals.
2. Compression test on materials.
3. Shear test on metals.
4. Impact test on metals.
5. Hardness test on metals.
6. Torsion test on metals.
7. Deflection of beams.
8. Modulus of rupture test.
9. Deflection of springs.

Practical examination shall be viva-voce based on above practical and the syllabus of the course.

****

3ME04 ENGINEERING THERMODYNAMICS

Course Learning Objectives :

1. To study the basic concepts of thermodynamics, thermodynamic systems, work and heat
2. To study the laws of thermodynamics and their applications
3. To study the properties of steam, work done and concept of heat transfer
4. To study the air standard cycles

Course Outcomes :

Students will be able to

1. Understand the basic concepts of thermodynamics, thermodynamic systems, work and heat
2. Apply first law of thermodynamics and application of first law to flow and non-flow processes
3. Apply second law of thermodynamics and understand concept of entropy
4. Understand the properties of steam, work done and heat transfer during various thermodynamics processes with steam as working fluid
5. Understand the concept of air standard cycles

SECTION – A

Unit-I: Introduction to basic concepts of thermodynamics, Macroscopic and microscopic approaches, properties of system, state, processes and cycle, thermodynamic equilibrium, types of thermodynamic systems, Temperatures and Zeroth law of thermodynamics, Quasi-static process, Gas Laws and Ideal gas equation of states, gas constant and universal gas constant.
Work and Heat: Definition of work, thermodynamic work, displacement work and other forms of work, Definition of Heat, Work and heat transfer as path function, comparison of work and heat, work done during various processes, P-V diagrams (10 hrs)

Unit-II: First law of thermodynamics: Energy of a system, classification of energy, law of conservation of energy law, Joules experiment. Energy a property of system, internal energy-a function of temperature, Enthalpy, specific heat at constant volume and constant pressure. Application of first law to non-flow processes, Change in internal energy, work done and Heat transfer during various non-flow processes. (7 hrs)

Unit-III: First Law applied to flow processes: Steady state, steady flow process, equation for work done in steady flow process and its representation on P-V diagram, mass balance and energy balance in steady flow process, steady flow energy equation and its application to nozzles and diffusers, turbine and compressor pumps, heat exchangers, Throttle valve etc. work done and Heat transfer during steady flow processes. (9 hrs)

SECTION – B

Unit-IV: Second Law of thermodynamics: Limitations of First law, Thermal energy reservoir, heat engines refrigerator and heat pumps, COP and tonne of refrigeration, COP for heat pump and refrigerator, Kelvin-Plank and Clausious statements, their equivalence, reversible and irreversible processes, Carnot cycle, Carnot theorem and its corollary, The thermodynamic temperature scale, Reverse Carnot cycle, Inequality of Clausius.
Introduction to Entropy, availability and irreversibility. Principle of increase of entropy. (8Hrs)
Unit-V: Properties of Steam: Triple point and critical point, Sensible heat, latent heat, superheat and total heat of steam. Wet steam, dryness fraction, Internal energy of steam, External work of evaporation, internal latent hear, Specific volume, enthalpy, internal energy and entropy of steam. T-S diagram Mollier chart, Steam tables and their use. Work done and heat transfer during various thermodynamics processes with steam as working fluid. Throttling of steam, determination of dryness fraction using various calorimeters. (8 Hrs)

Unit VI : Air Standard Cycles: Ottto, diesel, semidiesel, Brayton, Sterling and joule cycles etc., their efficiencies and mean effective pressure, comparison of auto, diesel and duel cycles.
Vapour Cycles:- Rankine and Modified Rankine Cycle. Comparison of Rankine and Carnot cycle, representation on P-V, T-S and H-S diagram. (No numerical on this unit) (numerical on air standard cycle) (8 Hrs)

BOOKS RECOMMENDED:

Text Books :

1. Engineering Thermodynamic - by P. K. Nag.
2. Fundamentals of Engineering Thermodynamics; R. Yadav;
3. Thermodynamics Basics and Applied: by V. Ganeshan
4. Thermal Engineerirng: by Mahesh M. Rathore.

Reference Books :

1. Basic Engineering Thermodynamics - by Reyner Joel
2. Thermodynamics - by C.P. Arora.
3. Fundamentals of Classical Thermodynamics - by G. J.Vanwylen.
4. Engineering Thermodynamics; P. Chattopadhyay; Oxford
5. Engineering Thermodynamics; Gordon Rogers, Yon Mayhew; Pearson.

****

3ME05 FLUID MECHANICS

Course Learning Objectives :

1. To introduce and explain the fundamentals of Fluid Mechanics used in applications of Hydraulics, Aerodynamics, Gas dynamics, etc.
2. To give fundamental knowledge of fluid, its properties and behavior under various conditions of internal and external flows.
3. To develop understanding about hydrostatic law, principle of buoyancy and stability of a floating body and application of mass, momentum and energy equation in fluid flow.
4. To imbibe basic laws and equations used for analysis of static and dynamic fluids.
5. To inculcate the importance of boundary layer flow and its applications
6. To determine the losses in a flow system, flow through pipes, impact of jet

Course Outcomes :

The student will be able to:

1. identify importance of various fluid properties at rest and in motion
2. derive and apply general governing equations for various fluid flows
3. understand the concept of boundary layer theory and flow separation.
4. calculate energy losses in pipe flow.
5. evaluate the performance characteristics of hydraulic jets

SECTION – A

UNIT-I : 1. Basic properties of fluid such as Density, Specific weight, Specific Volume, Specific gravity, Viscocity of fluid, Surface Tension, Capilarity, vapour pressure & cavitation.

2. pressure & its measurement: Pascals law, Hydrostatic law of pressure & pressure variation in fluid, measurement of pressure by Manometer. (10 Hours)

UNIT-II : 1. Hydrostatic pressure force on plane & curved surfaces. Measurment of total pressure & centre of pressure.

2. Buoyancy & floatation: Concept of buoyancy, centre of buoyancy. Stability of floating body, Metacentre & metacentric height. Condition of equilibrium of floating & sub-merged body. (08 Hours)

UNIT III : 1. Kinematics of fluid flow, Methods of describing fluid motion, Types of flow, rate of flow, streamline, potential line, flow net, velocity & acceleration, continuity equation in three dimensional flow.

2. Dynamics of fluid flow : Eulers equation of motion, Bernoullis equation measurement of fluid flow with venture meter. (08 Hours)

UNIT-IV : Flow through pipes: Losses in pipe, major losses, Darcy's Weisbach equation, monor losses due to sudden enlargement, contraction, entry, exit & pipe fitting. Hydraulic gradient & total energy line, flow through series & parallel pipes, concept of water hammer in pipes. (08 Hours)

UNIT-V : Motion of viscous fluid: Introduction to Laminar & Turbulent flow, Concept of Boundary layer & its type. Drag & Lift force on object. Boundary layer separation, Reynolds number & its significance. (08 Hours)

UNIT-VI : Principal of fluid machinery : Force exerted by fluid jet on plane, curved, stationary & moving vanes. Velocity diagrams, work done & efficiency. (08 Hours)

Books Recommended :-

Text Books:-

1. Fluid Mechanics & Machinery by Modi & Sheth.
2. Fluid Mechanics and Hydraulic Machines by R. K. Bansal.
3. Engineering fluid Mechanics by R. K. Rajput.
4. Fluid mechanics & Machinery by CRSP. Ojha, R. Berndtsson.
5. Fluid Mechanics by Strecter; Tata Macgraw Hill.

Reference Books:-

1. R.K.Rajput; Engineering Fluid Mechanics; S. Chand publications.
2. Dr. Mody & Seth; Hydraulics and Fluid Mechanics; Standard book house
3. S. Ramamrutham, Hydraulic, Fluid Mechanics & Fluid Machines, Dhanpatrai publishing company.
4. Strecter, Fluid Mechanics, Tata Mc-Graw Hill.

3ME09 FLUID MECHANICS - LAB

Practical Term Work:-

At least six (6) practicals (study/Trials) based on above syllabus, as given below shall be performed and a report there of submitted by the students :

1. Measurement of fluid pressure by manometer.
2. Determination of metacentric height.
3. Verification of Bernoulli's equation.
4. Determination of co-efficient discharge by Venturimeter.
5. Calculation of Reynolds number for Laminar & Turbulent flow.
6. Determination of co-efficient of friction (Major losses in Pipes) through pipe.
7. Determination of head loss due to sudden enlargement.
8. Determination of head loss due to sudden contraction.
9. Determination of loss of head in bends & in elbows.
10. Verification of momentum equation.

Note :- Practical examination shall consist of oral or Experimentation based on above term work.

****

3ME10 Machine Drawing - Lab

Course Learning Objectives :

1. To study the techniques of sectioning and visualizing the objects
2. To imagine and develop the missing views of objects
3. To seek the knowledge of development of surfaces
4. To seek the knowledge of intersection of solid objects
5. To know the conventions for materials and parts used in industries
6. To prepare the drawings for machine assembly

Course Outcomes :

Student will be able to -

1. Demonstrate the techniques of sectioning and visualizing the objects
2. Imagine, understand and sketch the missing views
3. Develop surfaces of objects and apply knowledge during their fabrication
4. Understand the concept of intersection of solid objects
5. Understand and apply the conventions for materials and parts used in industries
6. Prepare detail machine assembly drawings

List of Practicals :

1. Conversion of pictorial view into Sectional Orthographic Projection
2. Missing Views
3. Development of surfaces of Cubes / Prisms / Cylinders / Pyramids / Cones & their cut sections
4. Intersections of Solids – Prism & Prism /Cylinder & Cylinder /Cylinder & Prism / Cone & Prism
5. Conventions for various materials & parts
6. Preparation of detail drawings of simple machine assembly
7. Preparation of assembly drawing of simple machines

Books recommended:

Text Books:

1. Engineering drawing by N.D. Bhatt; Charactor Publications.
2. Machine Drawing by A. M. Bisen; New Edge International publication.
3. Machine Drawing by R. K. Dhawan, S. Chand
4. Machine Drawing by Basant Agrawal, McGraw Hill.
5.

****

B.E. (MECHANICAL) SEMESTER FOURTH

4ME01 MATERIAL SCIENCE

Course Learning Objectives:

1. To study the basic concepts of metallurgy and classification of materials
2. To study the process of formation of microstructures of metal materials and composites
3. To study the alloying elements, their effects and applications
4. To study the ferrous and non-ferrous metals and respective alloys
5. To study the various heat treatment processes and their industrial applications
6. To study the mechanical working of metals and process of powder metallurgy

Course Outcomes:

Students will understand the -

1. Basic concepts of metallurgy and types of materials.
2. Iron-Carbon Equilibrium Diagram, critical temperatures, formation of microstructures and they will get the knowledge of alloys.
3. Uses and practical applications of ferrous & non ferrous materials
4. Various heat treatment processes, powder metallurgy and industrial applications.

SECTION - A

UNIT-I: Introduction to metallurgy: Basic concept of process metallurgy, physical metallurgy, and mechanical metallurgy, Classification of materials & their application, Structure of metals and alloys, formation of Alloys, Solid solutions, types and their formation, lever rule for phase mixtures. Solidification of pure metals, nucleation and growth, ingot structure, dendritic solidification. (8 Hrs)

UNIT II: Study of binary equilibrium diagram and invariant reactions, Construction and study of Iron-carbon Equilibrium Diagram, Critical temperatures, Microstructure of slowly cooled steel, Estimation of carbon from microstructure, structure property relation, Introduction to composite materials, advantages and applications. (8 Hrs)

UNIT III: **Alloy Steels:** Purpose of alloying, Classification of alloy steels, classification of alloying elements, Effect of alloying elements on eutectoid composition, Eutectoid temperature, and on the S curve, , alloying elements and their effect on properties of steels, OHNS steels, Hadfield'S Manganese steels, High speed steels, their heat treatments and applications, Ferritic, Austenitic and Martensitic stainless steels, their properties and applications, weld decay in stainless steel. (8 Hrs)

SECTION - B

UNIT IV: Cast irons **:** Factors governing condition of carbon in cast iron, Maurer's diagram, Solidification of grey and white cast iron, Malleabalizing, Constitution and properties of white, gray, Nodular and Malleable cast irons, their applications, Alloy cast irons.

Non Ferrous Metals and Alloys : Types, Properties and uses of Brasses and Bronzes. Important alloys of Aluminium, Lead, Tin and Zinc, their applications. Bearing materials, Season cracking, precipitation hardening. (8 Hrs)

UNIT V: Principles of Heat Treatment: - Annealing, Normalizing, Tempering Iso-thermal transformation diagrams(S-curve), super imposition of continuous cooling curves on 's' Curve, pearlite, bainite and martenste transformation, Quenching media, severity of quench, Austempering, Martempering and patenting, Retained austenite and sub-zero treatment. Hardenability. (8 Hrs)

UNIT VI: Methods of surface hardening: Carburizing, Nitriding, Cyaniding, Flame and Induction Hardening. Mechanical working of Metals: - Hot and cold working, Relative advantages and disadvantages, study of stress strain curve, Luder's bands, Work hardening, strain Ageing; Recovery, Recrystallization and grain growth. Metallurgical factors affecting various Mechanical working processes, preferred orientation, Deformation mechanisms-Slip& twining, critical resolved shear stress.

Powder Metallurgy: Concept, Methods of Manufacture of metal powders, compaction Process- Single die and double die, sintering, stages of sintering, Manufacture of porous bearings & cemented carbide tip tools by P.M.T. Advantages, limitations and applications of powder metallurgy. (8 Hrs)

BOOK RECOMMENDED :-

Text Books :-

1. Introduction to physical metallurgy ;Sidney H Avner, TATA Mc-Grawhill
2. Engineering materials & metallurgy R.K.Rajput, S chand publication.
3. Material nScience & Mettalurgy, by V.D. Kodgire. Everest Publication House.

Reference Books:

1. Mechanical Metallurgy, G. E. Dieter, Mc- Graw Hill International, London 3rd Edn. 1999
2. Physical metallurgy for engineers, Clarke and Varney, second Edn.,1987.
3. Power metallurgy, A.K Sinha First Edn. 1991.
4. Material Science and Metallurgy; V.D. Kodgire; Everest Publishing House
5. Engineering physical Metallugrgy, Y Lakhtin, Mir Publications. Second Ed. 1999
6. Material Science and Meallurgy- C Daniel Yesudian, Scitech Publication.

4ME07 MATERIAL SCIENCE - LAB

List of Practicals: - (At least eight (8) practicals out of the following list.)

1. Study of metallurgical microscope.
2. Preparation of specimen for micro-examination.
3. Moulding of specimen for micro-examination.
4. Study of micro structures of Annealed and normalized plain carbon steels.
5. Study of micro structures of alloy steels and H.S.S.
6. Study of micro structures of various cast irons.
7. Study of micro structures of non ferrous metals.(brasses, bronzes)
8. Study of micro structures of hardened and tempered steels.
9. Study of Iron carbon Equilibrium diagram & Allotropic forms of iron.

10. Study different Heat Treatment Process for steel.
11. Study of different surface Hardening processes for steels.
12. Study of effect of alloying elements on the properties of steels.
13. Measurement of hardenability by Jominy end quench test apparatus.
14. Study of hardness tester and conversion of Hardness number
15. Industrial visit to study heat treatment plant.
16. Measurement of particle size, grain size, nodularity, coating thickness etc. by using some software like Metzer Microcam 4.0

Practical Examination:

Note : Practical examination shall consist of viva voce/performance based on the above syllabus and practical work.

****

4ME02 ENERGY CONVERSION - I

Course Learning Objectives:

1. To study the properties of steam and its behavior for different thermodynamic process.
2. To study different types of boilers, their mountings, accessories, performance of boilers and different efficiencies.
3. To study the various fuel handling and ash handling system in power plant.
4. To study various types of condensers and cooling towers.
5. To study various thermodynamic aspects of flow of steam through nozzle and diffuser.
6. To study flow of steam through steam turbine and concept of compounding.

Course Outcomes:

1. Students will study the concept steam and steam power plant, mounting and accessories.
2. Students will demonstrate the calculation of various efficiency & related parameters.
3. Student will show the adequate knowledge of fuel & ash handling systems.
4. Students will demonstrate the knowledge of condenser & application.
5. Students will understand the concepts of steam nozzles & steam turbine.

SECTION – A

Unit I : Flow diagram for steam power plant with basic units such as steam generator, turbine, condenser and pump. Steam power plant layout, site selection. Boilers: Introduction to water tube and fire tube boilers used in thermal power plants, packaged Boilers, High pressure boilers; Loeffler, Benson, Lamont Boilers, Boiler mountings and accessories—devices for improving Boiler efficiency. Principle of fluidized bed combustion. Concept of co-generation. (7 Hrs.)

Unit II : Boiler draught; Types of draught, expression for diameter & height of chimney, condition for maximum discharge, efficiency of chimney, reasons for draught loss. Boiler performance:- Boiler rating, boiler power, equivalent evaporation, efficiency. Effect of accessories on boiler efficiency and heat balance. (7 Hrs)

Unit III : CONDENSERS : Need, Types of condensers, quantity of cooling water required. Dalton's law of partial pressure, condenser and vacuum efficiency. Sources of air in condensers and its effect on performance. cooling towers: Natural and mechanical wet type cooling tower.

Steam nozzles : Flow of steam through nozzles & diffusers, Maximum discharge, critical pressure ratio, chocking in nozzles, Effect of friction. Determination of throat & exit areas, Nozzle efficiency, no numerical on concept of super saturated flow & Wilson line. (7 Hrs.)

SECTION – B

UNIT IV : Steam Turbines:- Principle of working, Types of steam turbines such as impulse, reaction, axial & radial flow, back pressure & condensing turbines. Compounding. Reheat, regenerative cycles, bleeding. Analysis limited to two stages only. Analysis of steam Turbines : Flow of steam through impulse & impulse reaction turbine blades, Velocity diagrams. Graphical & analytical methods for work & power developed, axial thrust and efficiency. Height of turbine blades. losses in steam turbines:- blade friction, partial admission, disc friction, gland leakage losses and velocity losses. Governing of steam turbines. (7Hrs)

UNIT V : NUCLEAR POWER:- Fusion, fission, Chain reaction, conversion and breeding in nuclear fission. Components of Nuclear Power Plant such as Reactor, Steam generator, turbine, Moderator, Control Rods etc., Types of nuclear reactors like BWR, PWR, CANDU and liquidized metal cooled thermal reactors. (7 Hrs.)

UNIT VI : Introduction to renewable energy, Wind Energy, solar, fuel cell, bio-gas, MHD, Geothermal, OTEC, tidal power plants, Applications of Non conventional energy. (7 Hours)

RECOMMENDED BOOKS:

Text books :

1. Thermal engineering; Mahesh M Rathore; Tata McGraw-Hill
2. Thermal Engineering R.Yadav; Central publication
3. Non-conventional Energy Sources B. H. Khan Tata McGraw-Hill
4. Non-conventional Energy Sources G. D. Rai.

Reference books:

1. Steam Turbine; Kearton; Oscar Publications.
2. Thermal Power Engineering; Mathur Mehta; Tata McGraw-Hill
3. Power Plant Engineeirng. P. K. Nag
4. Power Plant Engineeirng; R. K. Rajput ; Laxmi Publications
5. Thermal Engineering, P.L.Ballaney; Laxmi Publications.

****

4ME03 MANUFACTURING TECHNOLOGY

Course Learning Objectives :

1. To study the mechanics of metal cutting, tool characteristics and cutting forces
2. To study the turning operations using lathe and CNC machines
3. To study the working of drilling and boring machines
4. To study the working of milling and gear cutting machines
5. To study the machining operations using grinding, shaper, planer and slotter machines
6. To study the unconventional machining processes

Course Outcomes :

Students will be able to -

1. Apply the knowledge of theory of metal cutting, tool selection & calculate cutting forces
2. Demonstrate the knowledge of basics of turning operations
3. Understand the drilling and boring operations and working of drilling & boring machines
4. Understand the milling and gear cutting operations and working of respective machines
5. Understand the working of grinding, shaper, planer and slotter machines
6. Understand the knowledge of unconventional machining processes

SECTION – A

UNIT I : Theory of Metal cutting: Mechanics of Metal cutting, Tool material, Tool Geometry, Cutting tool classification, Tool life, Tool wear, Calculation of Cutting forces, Machinability, Cutting fluids, Chip thickness ratio, Merchant circle. (8 Hrs)

UNIT II : Construction, Operations and accessories of centre lathe, introduction of capstan & turret lathe, indexing mechanism, bar feeding mechanism, Machine tool classification. Numerical approach. Taper turning & Screw cutting & basic concept of CNC. Introduction, working principal & CNC turning operation. (10 Hrs)

UNIT III : a) Drilling operation : Drilling M/cs general purpose, Mass production and special purpose drilling M/cs.
b) Introduction & types of Boring. Boring M/c :- Horizontal, Vertical and jig Boring M/c. Introduction to Broaching and its types, broach terminologies, etc. (8 Hrs)

SECTION - B

UNIT IV : (a) Calculation of machining time for Milling.
(b)Milling M/c :- Types, Types of Milling Cutters, Dividing head, Compound and differential idexing.
c) Gear producing M/cs. (6 Hrs)

UNIT V : a)Grinding Machines: Bench grinders, surface grinders, centreles grinders, types of bonds & Abrasive modification of grinding wheels.
b) Study of various part & Operation of Shaper, Planer, Slotter. (6 Hrs)

UNIT VI : Unconventional Machining Processes:-

a) Mechanical Processes:- Ultrasonic Machining - principle and applications. process parameters; Abrasive and water parameters involved.

b) Thermal processes:- Election Beam Machining – Generation of beam, principle and applications : Laser Beam machining applications : Plasma-arc machining- Concept and generation of plasma, principle of PAM, applications.

c) Electric discharge Machining - Types die-sinking, wire cut EDM, Mechanism of material removal, process parameters, advantages and applications. (8 Hrs)

BOOKS RECOMMENDED :

Text Books:

1. Manufacturing Technology-Vol 1 & 2; R.L.Timings, S.P. Wilkinson; Pearson Publication.
2. Workshop Technology - By Hajra Choudhaury Vol II.
3. Manufacturing Technology Vol. II P. N. Rao, McGraw Hill Publication

References:-

1. Pandya & Shah, Modern Machining process, Tata McGraw Hill 1998.
2. Workshop Technology, O.P. Khanna, Dhanpatrai & Sons.
3. Workshop Technology - By Raghuwanshi. Vol II.

4ME08 MANUFACTURING TECHNOLOGY - LAB

Practicals:-

1. Demonstration of operations related to lathe, shaper, slotter, drilling & grinding m/cs.
2. One job on lathe covering taper turning and threading.
3. One job on shaping covering plane and inclined surfaces.

The above jobs should include drilling, grinding, tapping etc. Term work should be submitted in the form of journal.

N.B. :- The practical examination shall consists of preparation of practical jobs and assessment by external and internal examiner.

*****

4ME04 BASIC ELECTRICAL DRIVES AND CONTROL

Course Learning Objectives :

1. To study the working of electrical drives and their components
2. To study the basics of DC motors and their characteristics
3. To study the working of AC motors, Induction motors and concept of braking
4. To study the different speed control methods of A.C. and D.C. motors
5. To study and design of transducers and their applications
6. To study the industrial applications of different drives

Course Outcomes :

Students will be able to -

1. Understand the working of electrical drives and their components
2. Understand the basics of DC motors and their characteristics
3. Understand the working of AC motors, induction motors and concept of braking
4. Understand the different speed control methods of A.C. and D.C. motors
5. Understand the design of transducers and their applications
6. Understand the industrial applications of different drives

SECTION-A

Unit I : Concept of general electric drives, classification and comparison of electrical drive system, Cooling and heating of electric motors. Introduction to mechatronics, Theory and principle of Power Transistor, SCR. **(**8 Hrs**)**

Unit II : Basic characteristics of D.C. motor, Torque equation, Modified speed – Torque characteristics. Starting and braking of Electrical D.C. motors, comparison of mechanical and electrical braking methods. Introduction, Principle, construction and working of Servo motors, stepper motors, Brushless D.C. motors. **(**8 Hrs**)**

Unit III : Classification of A.C. motors, construction, types, principle of working and characteristics of 3 phase Induction motors, applications. Starting and braking of 3 phase induction motors. Classification of single phase induction motors. construction, principle and working and applications. Principle and working of universal motor. **(**8 Hours**)**

SECTION-B

Unit IV : Conventional methods of speed control of A.C. and D.C. motors. Thyristorized stator voltage control of 3 phase induction motor, (v/f) control method, slip-power recovery scheme. Thyristorized armature voltage control of D.C. motors using phase control & Thyristorized chopper. **(**8 Hours**)**

Unit V : Basic principle, construction & applications of sensors and transducers, contact - non- contact type, optical proximity sensors. Switches, contact type, magnet type, electromagnetic type, sound, light, pressure, vibration transducers, Hall effect-sensors A.C./D.C. Tachogenerators. **(**8 Hours**)**

Unit VI: Industrial applications - classes of duty selection of an electric drive for particular applications such as steel mill, paper mill, cement mill, textile mill, sugar mill, electric traction, coal mining, etc. Induction heating, surface hardening & Dielectric heating. **(8 Hours)**

BOOKS RECOMMENDED :

Text Books:

1. A First Course on Electrical Drives - S.K. Pillai.
2. Basic Electrical Technology (Vol. 11) - B.L. Theraja

Reference Books :

1. Drives and Control - N. Dutta
2. Mechatronics - W. Bolton, Addison Wesley, Longman Ltd.
3. A Course in Electrical, Electronics Measurement and Instrumentation, By A.K.Sawhney, Dhanpat Rai & Sons,

4ME09 BASIC ELECTRICAL DRIVES AND CONTROL - LAB

List of Experiments :

Any EIGHT practicals from the following list :

1. To study the Specification of Various Electrical Machines.
2. To study the D.C. Motor Starters.
3. To study the Running and Reversing of D.C. Motor.
4. Speed Measurements using Magnetic Pick-up.
5. To study the Speed reversal of counter Current Breaking of 3-phase Induction Motor.
6. To control the speed of D.C. Motor by a) Armature Control b) Field Control.
7. To perform Load Test on Induction Motor.
8. To study Dynamic/Rheostatic Breaking of D.C. Motor.
9. To study Characteristics of Thyristor.
10. To study the speed -Torque Characteristic of Servo Motor.

****

4ME05 HYDRAULIC AND PNEUMATIC SYSTEMS

Course Learning Objectives:

1. To get fundamental background about the hydroelectric power plants
2. To study operation, working principle & performance characteristics of hydraulic turbines
3. To study operation, working principle & performance characteristics of centrifugal pump, reciprocating pump and other hydraulic pumps
4. To study the behavior of compressible fluid flow
5. To study different hydrostatic & hydro kinematics industrial applications

Course Outcomes:

Students will be able to -

1. Demonstrate basic concepts of prime movers and turbines
2. Utilize the knowledge of centrifugal and reciprocating pumps for applications
3. Reveal the importance of other water lifting devices
4. Solve the elementary treatment on compressible fluid flow
5. Understand the concept of hydrostatic and hydrokinetic systems
6. Use the knowledge of hydraulics & pneumatics in developing project work.

SECTION - A

Unit I : Hydraulic Turbines - Theory of impulse and reaction turbines. Pelton, Francis and Kaplan turbines, their construction, classification, analysis, characteristics and governing, draft tube. (10 Hours)

Unit II : Centrifugal pumps :- Basic Theory, classification, construction, operation, characteristics, multistage, NPSH and cavitations in pumps. (7 Hours)

Unit III:

1. Axial flow pump :- Basic theory, construction, & operation.
2. Other water lifting devices :- (a) Air lift pump. (b) Jet Pump. (c) Hydraulic Ram.
3. Computational Fluid Dynamics (CFD)
4. Introduction to CFD: Necessity, limitations, philosophy behind CFD, applications (6 Hours)

SECTION - B

Unit IV : Positive Displacement and other Pumps: Reciprocating pump theory, Slip, Indicator diagram, Effect of acceleration, air vessels. Comparison of centrifugal and reciprocating pumps, performance characteristics. (9 Hours)

Unit V : Compressible fluid flow :- Perfect gas relationship, speed of sound wave, mach number, Isothermal and isotropic flows, shock waves. (8 Hours)

Unit VI : Hydraulic accumulator, Hydraulic intensifier, Hydraulic Press, hydraulic crane, hydraulic lift, hydraulic coupling, hydraulic torque converter. (8 Hours)

BOOKS RECOMMENDED :-

Text Books:-

1. CSP Ojha, R. Berndtsson, Fluid mechanics and machinery; Oxford University.
2. Bansal R.K., Fluid mechanics and fluid machines; Laxmi publications.

Reference Books:-

1. Jagdish Lal, Hydraulic machines; Metropolitan Book Co. Pvt. Ltd.
2. Dr. Modi & Seth, Hydraulics and Fluid Mechanics; Standard house book.
3. Sen gupta, Computational fluid dynamics; Pearson Publishers.
4. Sameer sheikh, Iliyas Khan, Treaties on Hydraulics; Pneumatics, R.K. Publication.

4ME10 HYDRAULIC & PNEUMATIC SYSTEMS - LAB

List of Practicals:- At least **SIX** (6) practicals based on following :

1) Trial/Study of Pelton wheel
2) Trial/Study of Francis Turbine
3) Trial/Study of Kaplan Turbine
4) Trial/Study of centrifugal pump
5) Trial/Study of reciprocating pump
6) Trial/Study of axial flow pump
7) Trial/Study of hydraulic ram
8) Trial/Study of multistage pump
9) Trial/Study of special pumps (air lift pump/ jet pump)
10) Trial/Study of Gear pump
10) Any one practical based on CFD software

Note : Practical Examination : Practical examination shall consist of Viva Voce/performance based on above syllabus & practical work.

****

SYLLABUS OF SEM. III & IV B.E. (ELECTRONICS & TELECOMMUNICATION ENGG.)

Semester-III

3ETC1 - ENGINEERING MATHEMATICS-III

Course Requisite: 1. (IA1) Engineering Mathematics-I 2. (IB1) Engineering Mathematics-II

Course Objectives:

1. To deal with linear differential equations.
2. Understand Laplace transforms .
3. Introduction to geometry of curves, two and three-dimensional regions and calculus of vector valued functions.
4. To equip students with necessary knowledge and skills to enable them to handle mathematical operations of complex analysis .

DIRECTION

No. 21/2021 Date : 01/04/2021

Subject : Examinations leading to the Degree of Master in Computer Application (Two Year degree Course.... Semester Pattern) (Choice Based Credit System) in the Faculty of Science & Technology, Direction, 2021.

Whereas, Direction Nos. 33/2010 and 28/2019 regarding the examinations leading to the Degree of Master in Computer Application (Three Year Degree Course.... Semester Pattern) as per Credit Grade System and as per Choice Based Credit System in the then Faculty of Engineering & Technology and Faculty of Science & Technology respectively are in existence in the University,

AND

Whereas, the letter from the Member Secretary, A.I.C.T.E., New Delhi has been received on 3.7.2020 regarding change in the duration of M.C.A. program from Three (3) years to Two (2) years to be implemented from the academic session 2020-2021 and onwards,

AND

Whereas, the Hon'ble Vice-Chancellor has constituted a Committee under the Chairmanship of the Chairman, Board of Studies in Computer Science & Engg. regarding preparation of the schemes of teaching & examinations of Semester I to IV of the Two years Course of Master in Computer Application as per A.I.C.T.E. guidelines to be implemented from the academic session 2020-21 and onwards in phase wise manner,

AND

Whereas, the Committee in its series of on-line meetings held on 7.8.20, 11.8.20 & 28.8.2020 has prepared and recommended the Schemes of teaching & examinations of Semester I to IV of the Two years Master in Computer Application (M.C.A.) Course as per A.I.C.T.E. guidelines to be implemented from the academic session 2020-21 and onwards in phase wise manner,

AND

Whereas, the Faculty of Science & Technology in its meeting held on 8/9/2020 vide Item No. 9 (R-1) has considered and accepted the recommendations of the Committee regarding implementation of the Schemes of teaching & examination of Semester I to IV of the Two years Master in Computer Application (M.C.A.) Course as per A.I.C.T.E. guidelines to be implemented from the academic session 2020-21 and onwards in phase wise manner,

AND

Whereas, the Hon'ble Vice-Chancellor has accepted & acorded approval to the recommendation of the Faculty of Science & Technology under Section 12 (7) of the Maharashtra Public Universities Act, 2016 on behalf of the Academic Council on 21.09.2020 regarding implementation of the Schemes of teaching & examination of Semester I to IV of the Two years Master in Computer Application (M.C.A.) Course as per A.I.C.T.E. guidelines to be implemented from the academic session 2020-21 and onwards in phase wise manner,

AND

Whereas, the Scheme of teaching & examination of Semester I to IV of the Two years Course Master in Computer Application (M.C.A.) are to be implemented from the academic session 2020-21 and onwards in phase wise manner,

AND

Whereas, the Scheme of teaching & examinations and other provisions are required to be regulated by an Ordinance / Regulation,

AND

Whereas, matter of making an Ordinance / Regulation are a time consuming process,

Now, therefore, I, Dr. M. G. Chandekar, Vice-Chancellor of Sant Gadge Baba Amravati University, in exercise of powers conferred upon me, under sub-section (8) of Section 12 of the Maharashtra Public Universities Act, 2016, having issued the following direction:

1. This Direction may be called as "Examinations leading to the Degree of Master in Computer Application (Two Year degree Course.... Semester Pattern) (Choice Based Credit System) in the Faculty of Science & Technology, Direction, 2021**.**

2. This Direction shall come into force with effect from the date of its issuance.

3. This Direction shall come into force w.e.f. the session :-

   i) First Year M.C.A. Semester I & II for 2020-2021 and

   ii) Second Year M.C.A.Semester III & IV for 2021-2022

4. Subject to the compliance with the provisions of this Direction and other ordinances in force from time to time along with the rules/regulations received from the Govt. of Maharashtra, the following persons shall be eligible for admission to MCA :

(a) The Candidate should be an Indian National,

(b) i) Passed B.C.A. or Bachelor degree in Computer Science Engineering or equivalent degree and obtained at least 50% marks in aggregate (at least 45% in case of candidates of backward class categories Economically weaker sections and Persons with Disability belonging to Maharashtra State,

OR

ii) Passed B.Sc. or B.Com. or B.A. with Mathematics at 10 + 2 Level or at Graduation level and obtained at least 50% marks in aggregate (at least 45% in case of candidates of backward class categories Economically weaker sections and Persons with Disability belonging to Maharashtra State with

(a) Additional Bridge Course as per norms of the University

OR

(b) Shall successfully complete two (2) SWAYAM NPTEL on-line Cerfication Courses on (i) Computer Fundamentals (ii) Programming Language or similar Courses at least (4) weeks each through MOOCs (Massive Open On-line courses) before joining or during the M.C.A. Course as required by the D.T.E.

5. The exemption in the Bridge Course shall be given to the following students :

i) Who have studied Computer Science /Computer Application subjects as one of the subjects at graduation examination.

ii) Who have P.G. Diploma in Computer Science / Computer Application / Information Technology recognized by any Statutory University / Board.

iii) Who have successfully completed and obtained Certificate /s of Online Course/s in the subjects like Computer Fundamentals, Databases, Operating System Programming Language etc. of minimum 60 Hrs. duration from MOOC- SWAYAM / NPTEL.

6. (i) Duration of the course shall be of two (2) academic years.

(ii) The University shall hold the main examination of regular studens of Semester I & III in Winter and Semester III & IV in Summer every year. The supplementary examination of Semester I & III shall be held in Summer and the supplementary examination for Semester II & IV shall be held in Summer every year.

7. For purposes of instruction and examination the student shall study sequentially.

8. The period of academic session / term shall be such as may be notified by the University.

9. The examinations shall be held at such places and on such dates as may be notified by the University.

10. Subject to his/her compliance with the provisions of this Direction and of other Ordinances (Pertaining to Examinations in General) in force from time to time, the applicant for admission, at the end of the course of study of a particular term shall be eligible to appear at it, if,

i) He / She satisfied the condition in the **Table - I** as mentioned below and the provision there-under.

ii) He / She has prosecuted a regular course of study in the University/College affiliated to the University.

iii) He/She has in the opinion of the Head of the Department/Principal shown satisfactory progress in his / her studies.

TABLE – I

Name of Exam	The student should have passed the examination of	The student should have completed the session / term satisfactorily
1	2	3
First Year MCA Semester - I	The qualifying Examination mentioned in Sr.No.4 above	First Yr. MCA Semester - I
First Year MCA Semester - II	----------	First Yr. MCA Semester I & II
Second Year MCA Semester -III	----------	Second Year MCA Semester - III
Second Year MCA Semester - IV	----------	Second Year MCA Semester III & IV

11. The Scheme of teaching & examination for M.C.A. Course shall be as provided under "**Appendix-A**" appended with this Direction.

12. The norms for Bridge Course and the Scheme of teaching & examination of Bridge Couse for admission to the M.C.A. shall be as provided under "**Appendix-B**" appended with this Direction.

13. Common Instructions for all the Semesters regarding Choice Based Credits (CBC) /Open Electives (OE) are as under :

The Subjects/Modules/Activity to be undertaken by the Student under the Open Electives approved by the Department /Institute. The schedule of approval will be declared by the Department / Institute at the beginning of the Semester (1st July) as per details given below :

One Faculty Member will work as a Coordinator for Open Electives for which 01 Hour of Theory period will be considered as a weekly work load against this work. All Coordinators has to do counseling of respective Open electives, do the Students Registration process and allot them to faculty members (will be working as a mentor). All these electives are internally accessed by respective Coordinators & Guides based on Minimum 03 Class Tests/ Final Objective Test/ Demo/ Report Submission / Certificate issued by competent authority Viva Voce and other methods as decided by the Department / Institute.

The Mentor shall conduct Tutorial Classes for Workload counting purpose, it should be noted that: 01 Tutorial hour is equal to 01 Theory Hour. For Tutorial, Batch of Maximum 20 Students will be considered and the Tutorial Batch should not be comprised of Less than 04 Students.
Coordinator shall take care that the students are not repetitively opting for same type of Electives in every Semester.

Summary of conduction of Choice Based Credits (CBC) /Open Electives (OC) Electives for all Semesters :-

i) Electives Selection Process starts at beginning of the Semester.
ii) Declare the names of Coordinator for Open Electives.
iii) Counseling of Students by Coordinators for selection of Open Elecetives.
iv) Registration of Students by Coordinators under respective Open Electives.
v) Allotment of Registered Students to Mentor from Department.
vi) Guidance/Counseling to Students by Mentor throughout the Semester.
vii) General Counseling by Coordinators over the Semester, whenever required.
viii) Final Assessment of Students by Coordinators & Mentor for Allotment of Final Credits.
ix) Submission of Credits gained by Students to the Head of Department from Coordinators.

14. i) The scope of the M.C.A. Course is as indicated in the syllabus.

ii) The scope of Bridge Course for admission to M.C.A. Course is as indicated in the syllabus.

15. The medium of instruction and examination of M.C.A. and Bridge Course shall be English.

16. The fees for each M.C.A. Examinations (Theory & Practical) shall be as prescribed by the University from time to time.

17. The computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) of an examinee shall be as given below :-

The marks will be given in all examinations which will include college assessment marks and the total marks for each Theory / Practical shall be converted into Grades as per **Table II**.

SGPA shall be calculated based on Grade Points corresponding to Grade as given in Table II and the Credits allotted to respective Theory / Practical shown in the scheme for respective semester. SGPA shall be computed for First Year (Semester I & II) and Second Year (Semester III & IV) and CGPA shall be computed in Second Year (Semester IV) based on SGPAs of First Year (Semester I & II) and Second Year (Semester III & IV) :-

$$SGPA = \frac{C_1xG_1+C_2xG_2+.....+C_nxG_n}{C_1+C_2+..... +C_n}$$

Where C_1 = Credit of individual Theory / Practial

G_1 = Corresponding Grade Point obtained in the respective Theory / Practical

$$CGPA = \frac{(SGPA)_{sem\ 1}\ x\ (Cr)_{sem\ 1} + (SGPA)_{sem\ 2}\ x\ (Cr)_{sem\ 2} + (SGPA)_{sem3}\ x\ (Cr)_{sem3} + (SGPA)_{sem4}\ x(Cr)_{sem4}}{(Cr)_{sem1} + (Cr)_{sem2} + (Cr)_{sem3} + (Cr)_{sem4}}$$

Where, $(SGPA)_{sem\ 1\ to\ sem\ 4}$ = SGPA of First Year Semester I & II to Second Year Semester III & IV

$(Cr)_{sem\ 1\ to\ sem\ 4}$ = Total Credits for First Year Semester I & II to Second Year Semester III & IV

CGPA equal to 6.00 and above shall be considered as equivalent to
First Class which shall be mentioned on Grade Card of Second Year Semester III & IV as a foot note.

TABLE II

THEORY

Grade	Percentage of Marks	Grade Points
AA	80 ≤ Marks ≤ 100	10
AB	70 ≤ Marks < 80	9
BB	60 ≤ Marks < 70	8
BC	55 ≤ Marks < 60	7
CC	50 ≤ Marks < 55	6
CD	45 ≤ Marks < 50	5
DD	40 ≤ Marks < 45	4
FF	00 ≤ Marks < 40	0
ZZ	Absent in Examination	—

PRACTICAL

Grade	Percentage of Marks	Grade Points
AA	85 ≤ Marks ≤ 100	10
AB	80 ≤ Marks < 85	9
BB	75 ≤ Marks < 80	8
BC	70 ≤ Marks < 75	7
CC	65 ≤ Marks < 70	6
CD	60 ≤ Marks < 65	5
DD	50 ≤ Marks < 60	4
FF	00 ≤ Marks < 50	0
ZZ	Absent in Examination	—

18. Provisions of Ordinance No.18 of 2001 in respect of an Ordinance to provide grace marks for passing in a Head of passing and improvement of Division (Higher Class) and getting distinction in the subject and condonation of deficiency of marks in a subject in all the faculties prescribed by the **Direction No. 15 of 2017** and Ordinance No. 18 of 2001 shall apply to each examination under this Direction.

19. An examinee who does not pass or who fails to present himself/ herself for the examination shall be eligible for readmission to the same examination, on payment of fresh fees and such other fees as may be prescribed.

20. As soon as possible after the examination, the Board of Examinations shall publish a result of the examinees. The result of final MCA Examination shall be classified as above and meritlist shall be notified as per Ordinance No.6.

21. Notwithstanding anything to the contrary in this Direction, no person shall be admitted to an examination under this Direction, if he/she has already passed the same examination or an equivalent examination of any statutory University.

22. The Institute shall prepare the certificate of Bridge Course of every successful student in the presceribed format as **'Appendix - C'** appended to this Direction, submit the same along with the examination report and the tabulation record to the University. On receipt of the examination report and the tabulation record, the University shall verify the results as per the procedure laid down in this regard and issue the certificate to the student.

23. (i) The examinees who have passed in all the subjects prescribed for all the examinations shall be eligible for award of the Degree of Master in Computer Application.

(ii) An examinee successful at the examination shall on payment of prescribed fees receive a degree in prescribed form signed by the Vice-Chancellor.

24. The existing Direction Nos. 33 / 2010 & 28 / 2019 regarding examinations leading to the Degree of Master in Computer Application (Three Year Degree Course.... Semester Pattern) as per Credit Grade System in the Faculty of Science & Technology, Direction, 2019 shall be repealed in phase wise and stage wise manner.

Sd/-
Date : 31 /03/2021 (Dr.M.G.Chandekar)
Vice-Chancellor

****

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

Two Year MCA

Curriculum Scheme for First Year MCA

Sr.No	Course Category	Subject Code	Subject	Credit	Teaching Scheme			Hours /Week	Examination Scheme									
									Theory					Practical				
					LECTURES	TUTORIAL	PRACTICAL		Duration of Paper(Hrs)	Max Marks Theory Papers	Max Marks Sessional	Total	Min Pass Marks	Duration of Exam (Hrs)	External Marks	Sessional Marks	Total	Min Pass Marks
Semester-I																		
1	Core	MCA20101	Advanced Computer Architecture	3	3		-	3	3	80	20	100	40	-	-	-	-	-
2	Core	MCA20102	Data Structure & Algorithms	4	4		-	4	3	80	20	100	40	-	-	-	-	-
3	Core	MCA20103	Operating System	4	4		-	4	3	80	20	100	40	-	-	-	-	-
4	Core	MCA20104	Data Communication & Networks	4	4		-	4	3	80	20	100	40	-	-	-	-	-
5	Core	MCA20105	Mathematics & Statistical Techniques	4	4		-	4	3	80	20	100	40	-	-	-	-	-
6	Choice based	MCA20106	Open Elective 1	2		2	-	2								50	50	25
7	Skill	MCA20107	Lab1- Object Oriented Programming in JAVA	3	-	2	2	4						3	25	25	50	25
8	Skill	MCA20108	Lab2- Data Structure and Algorithms	1	-	-	2	2	-	-	-	-	-	3	25	25	50	25
9	Skill	MCA20109	Lab3- Operating System	1	-	-	2	2	-	-	-	-	-	3	25	25	50	25
10	Skill	MCA20110	Lab4-Mathematics & Statistical Techniques	1			2	2						3	25	25	50	25
			Total	**27**	**19**	**4**	**8**	**31**		**400**	**100**	**500**			**100**	**150**	**250**	
Semester-II																		
1	Core	MCA20201	Client Server Computing	4	4		-	4	3	80	20	100	40	-	-	-	-	-
2	Core	MCA20202	Artificial Intelligence &Applications	4	4		-	4	3	80	20	100	40	-	-	-	-	-
3	Core	MCA20203	Advance Data Base Management Systems	4	4		-	4	3	80	20	100	40	-	-	-	-	-
4	Core	MCA20204	Software Engineering	4	4		-	4	3	80	20	100	40					
5	Elective	MCA20205	Elective 1	4	4		-	4	3	80	20	100	40	-	-	-	-	-
6	Choice Based	MCA20206	Open Elective 2	2		2	-	2							-	50	50	25
7	Skill	MCA20207	Lab 5-Client Server Computing	1	-	-	2	2	-	-	-	-	-	3	25	25	50	25
8	Skill	MCA20208	Lab 6-Artificial Intelligence &Applications	1	-	-	2	2	-	-	-	-	-	3	25	25	50	25
9	Skill	MCA20209	Lab 7- Elective- 1	1	-		2	2	-	-	-	-	-	3	25	25	50	25
10	Skill	MCA20210	Lab 8- Mini Project	1	-	-	2	2						3	25	25	50	25
			Total	**26**	**20**	**2**	**8**	**30**		**400**	**100**	**500**			**100**	**150**	**250**	

Elective-1
i) Computer Graphics
ii) Data Security
iii) Optimization Techniques

Mini project - the students needs to complete at the end of the semester in order to strengthen the understanding of fundamentals through effective application of the courses learnt.

The Open Elective and Credit Assigned (Open Elective 1, 2)	Credits
Successful completion of Online Course of 4 weeks	2
Project Acivity	2
Paper/poster presentation	1
Completion of softskill programme of one week	1
Internship of 30 Hrs	2
Field Visit of 15 Hrs	1
Startup recognized and approved by the department	2
Participation in Unnat Bharat Abhiyan 1 for 3 days, maximum 2	1
Yoga Meditation camp of 3 days	1
Completion of course/activity of similar credits proposed by the department from among the available courses/activities from other department/faculty in the college/university	2

Open Elective: Each student shall complete 2 credits

Curriculum Scheme for Second Year MCA

Sr.No	Course Category	Subject Code No.	Subject	Credit	Teaching Scheme				Examination Scheme									
					LECTURES	TUTORIALS	PRACTICALS	Hours /Week	Theory					Practical				
									Duration of Paper(Hrs)	Max Marks Theory Papers	Max Marks Sessional	Total	Min Pass Marks	Duration of Exam (Hrs)	External Marks	Sessional Marks	Total	Min Pass Marks
Semester-III																		
1	Core	MCA20301	Data Analytics	4	4		-	4	3	80	20	100	40	-	-	-	-	-
2	Core	MCA20302	Cloud Computing	4	4		-	4	3	80	20	100	40	-	-	-	-	-
3	Core	MCA20303	Web Technology	4	4		-	4	3	80	20	100	40	-	-	-	-	-
4	Elective	MCA20304	Elective 2	4	4			4	3	80	20	100	40					
5	Elective	MCA20305	Elective 3	4	4			4	3	80	20	100	40		-			
6	Choice Based	MCA20306	Open Elective3	2		2		2							-	50	50	25
7	Skill	MCA20307	Lab 7 Data Analytics using Python/R language	1	-		2	2	-	-	-	-	-	3	25	25	50	25
8	Skill	MCA20308	Lab 8 Web Technology	1	-		2	2	-	-	-	-	-	3	25	25	50	25
9	Skill	MCA20309	Lab 9 Elective 2	1	-		2	2	-	-	-	-	-	3	25	25	50	25
10	Project	MCA20310	Lab10 Elective 3	1			2	2						3	25	25	50	25
			Total	**26**	**20**	**2**	**8**	**30**		**400**	**100**	**500**			**100**	**150**	**250**	
Semester-IV																		
1	Skill	MCA20401	Industry Project and Internship/Startup	18	-		-	24	-	-	-	-	-	3	200	50	250	125
2	Skill	MCA20402	Seminar	6	-		0	6	-	-	-	-	-			50	50	25
3	Online	MCA20403	Online Subject	2	2			2								50	50	25
			Total	**26**	**2**		**0**	**32**							**200**	**150**	**350**	

Elective-2	**Elective-3**	**Online Subject**
i) Animation & Movie Making	i) Software Testing	i) Management Information System
ii) Cyber Security & Digital Forensic	ii) Mobile Application Development	ii) Entrepreneurship Development
iii) Block Chain Technology	iii) Internet of Things	iii) Enterprise Resource Planning
	iv) Soft Computing	iv) Research Methodology

Online Subject - Department may choose any of the specified subject and conduct it in online mode

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.2 Academic Flexibility

1.2.2 & 1.2.3	Number of Add on /Certificate programs offered during the year

Criteria-1 Curricular Aspects

1.2.2/1.2.3

Contents

P. R. Pote College of Engineering & Management, Amravati

Department of Electronics and Telecommunication Engg.

Report on

Python Programming Workshop

Name of Course	Online Python programming workshop
Nature of Course	Training
Career Opportunity	Software Engineer., Python Developer. Research Analyst. Data Analyst. Data Scientist. Software Developer.
Objectives of the Course	Acquaint participants with the basics of Python programming and its application areas. Impart knowledge on the advanced Python tool and different concepts that will be helpful to build real time applications. Enable participant to convert their product idea into a working prototype. Bring-up participant to new innovation in the field of electronics.
Outcomes of the Course	To explain basic Python programming and its application. To describe the Python programming and compare its configuration.
Name of Resource Person	Prof. R. D. Sushir
Course Duration	25/06/2020 to 30/06/2020
Target Participants	Students of Department of Electronics and Telecommunication Engineering.

Course Structure & Syllabus

Chapter One: Fundamentals of Python

- Introduction to Python
- Running Python Programs
- Writing Python Code

Chapter Two: Working with Data

- Data Types and Variables
- Using Numeric Variables
- Using String Variables

Chapter Three : Input and Output

- Printing with Parameters
- Getting Input from a User
- String Formatting

Chapter Four: Making Decisions

- Logical Expressions
- The "if" Statement
- Logical Operators
- More Complex Expressions

Chapter Five: Lists and Loops

- Lists and Tuples
- List Functions
- "For" Loops
- "While" Loops

P. R. Pote (Patil) Edu. & Welf.Trusts Group of Institutions College of Engineering & Management, Amravati.

Department of Electronics & Telecommunication Engg.

Session2020-21

ETSA

(*Electronics &Telecommunication Engineering Student Association*)

NOTICE

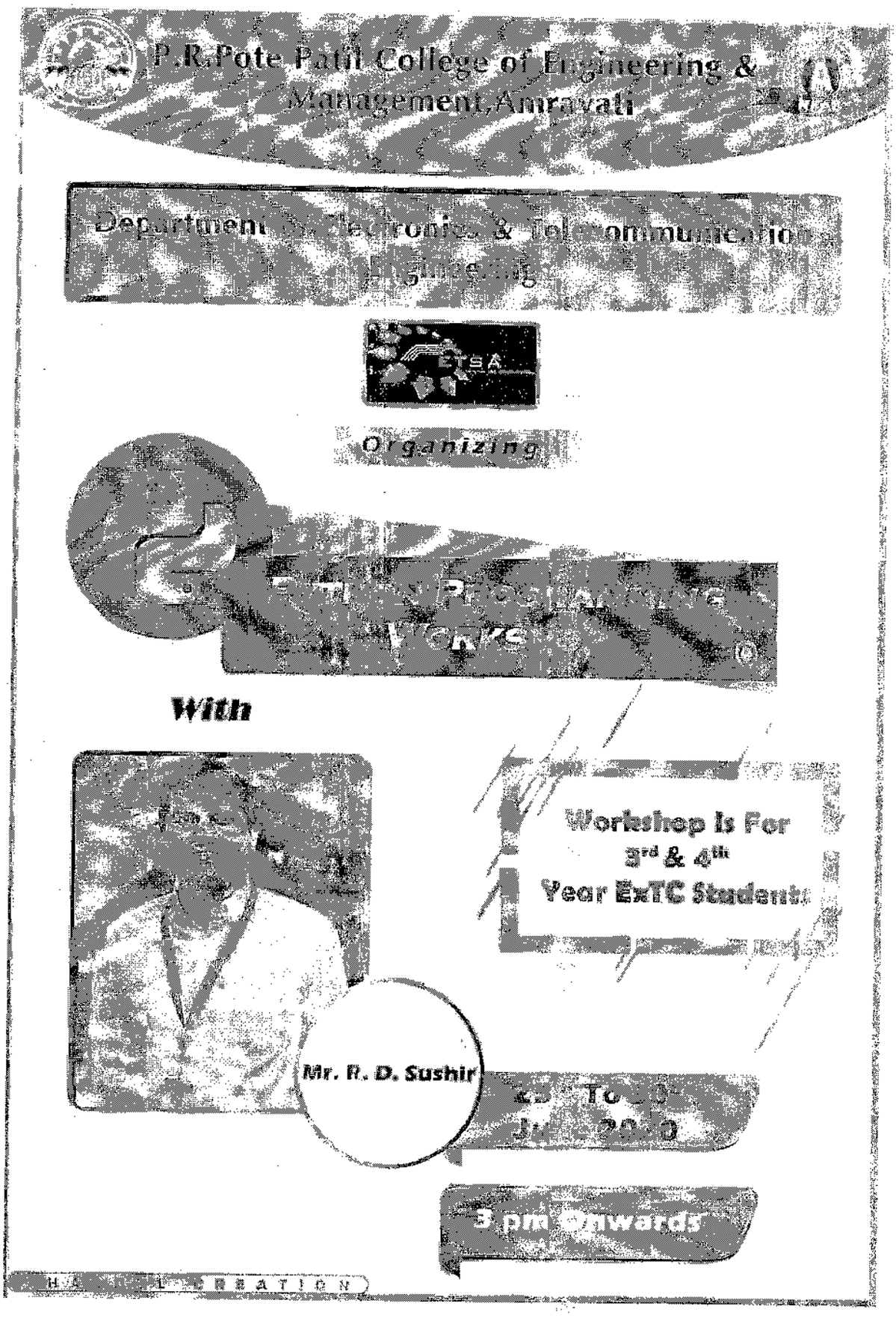
Date: 21/06/2020

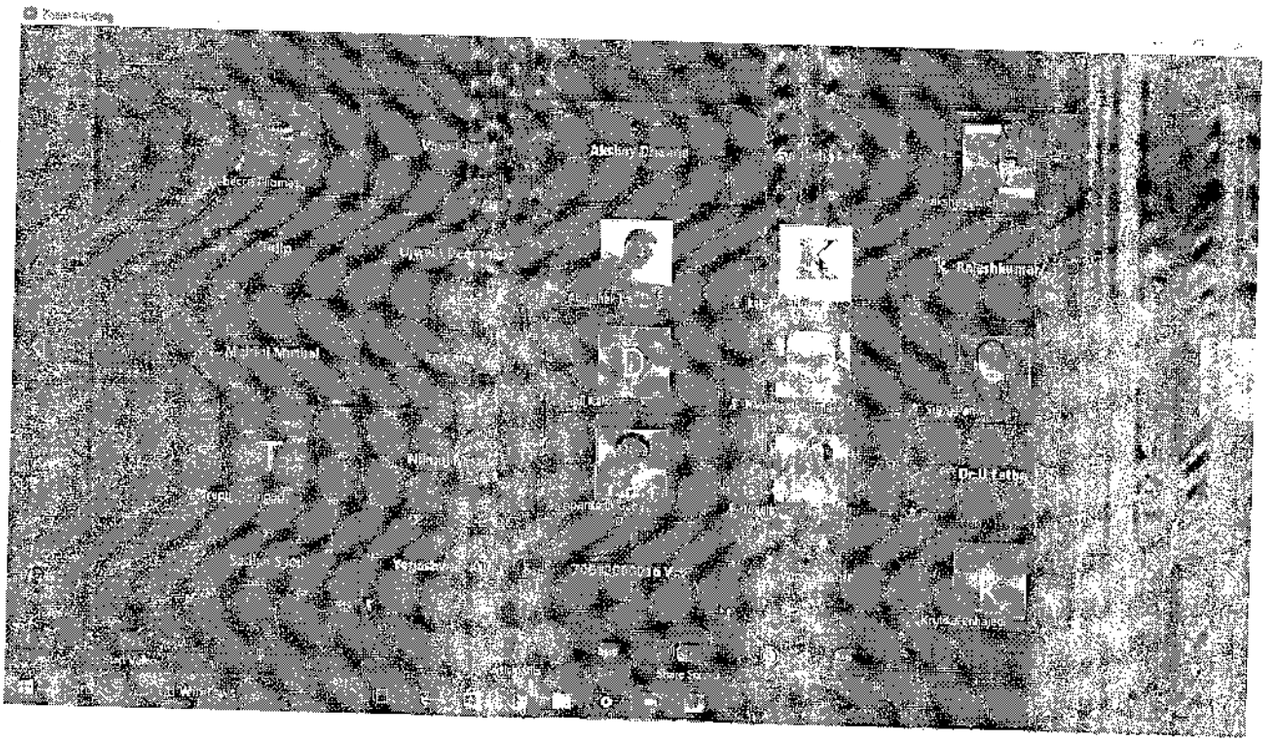
All the students of Electronics & Telecommunication Engg. Dept. are hereby informed that, our departmental is going to organize "***Online Python Programming Workshop***" from 25/06/2020 to 30/06/2020. All the students of Third year are hereby informed that they have to register for Workshop.

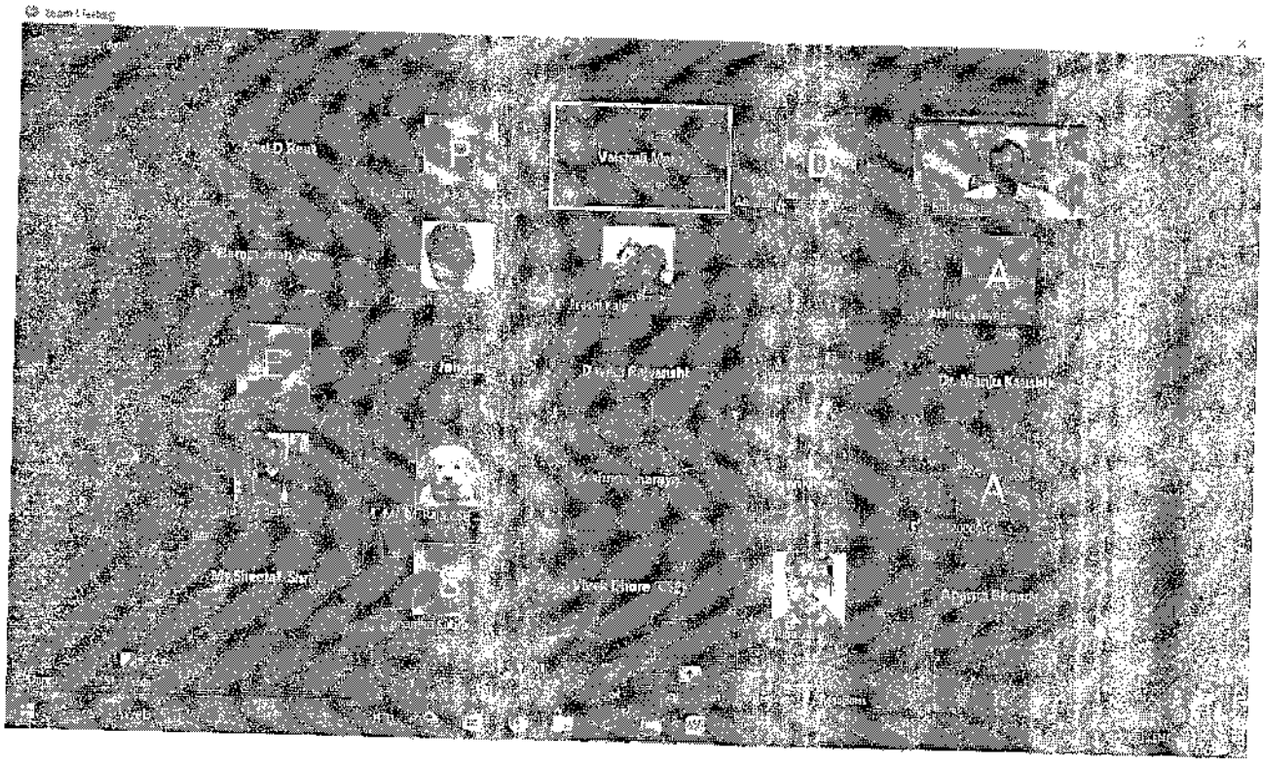
Faculty Coordinator

HOD (ExTC)

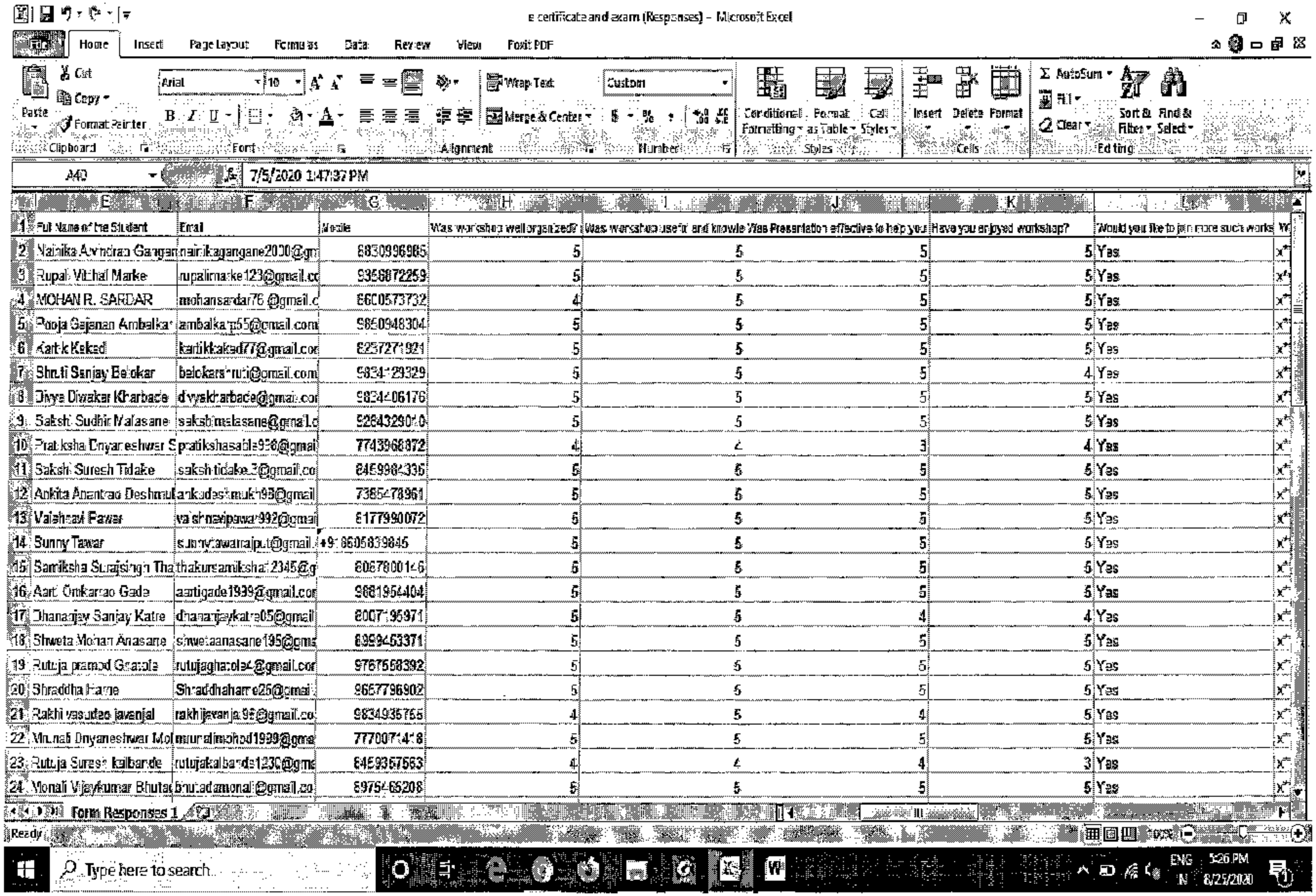
Snapshots of the Programs







Participant Feedback

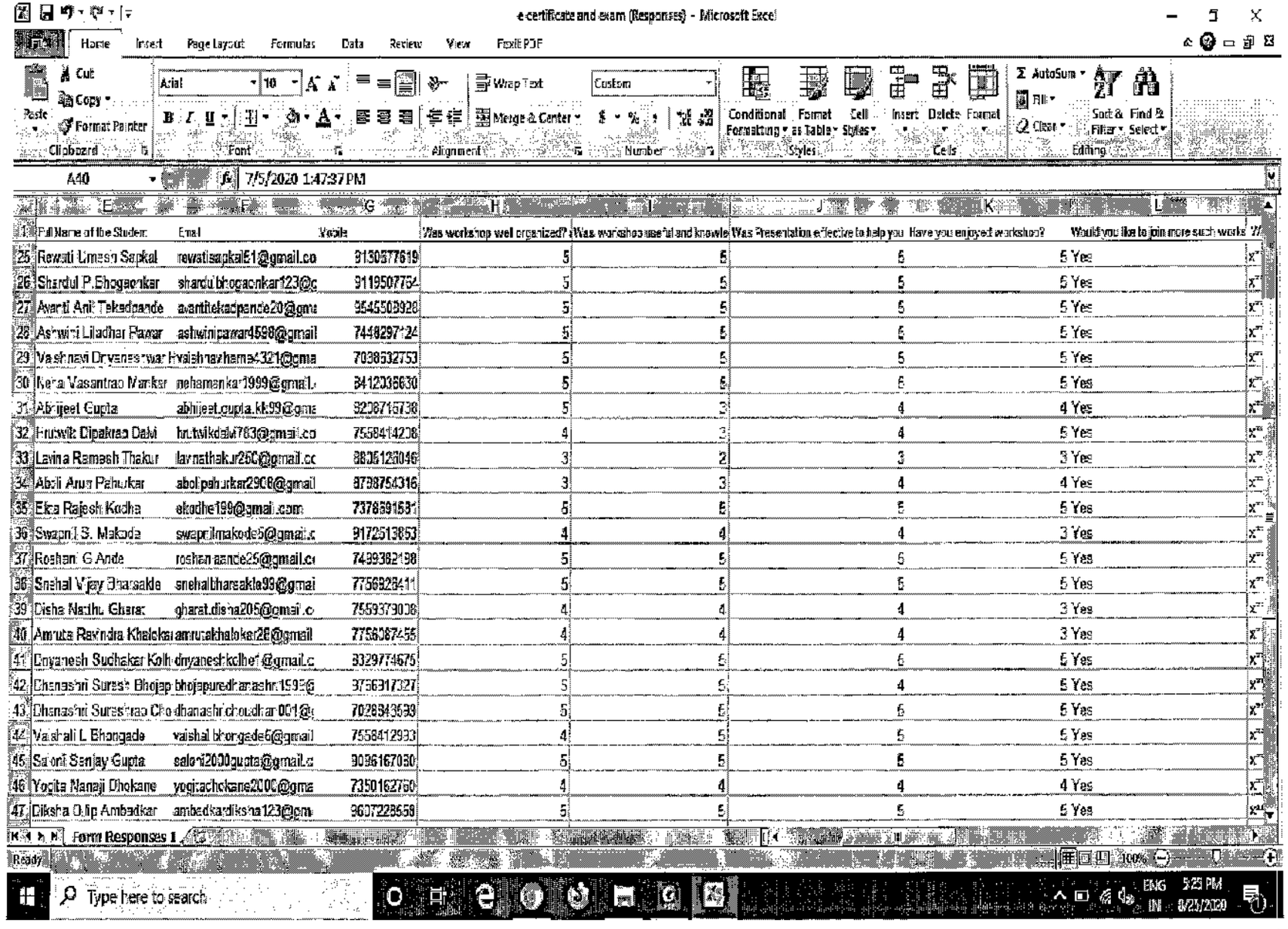


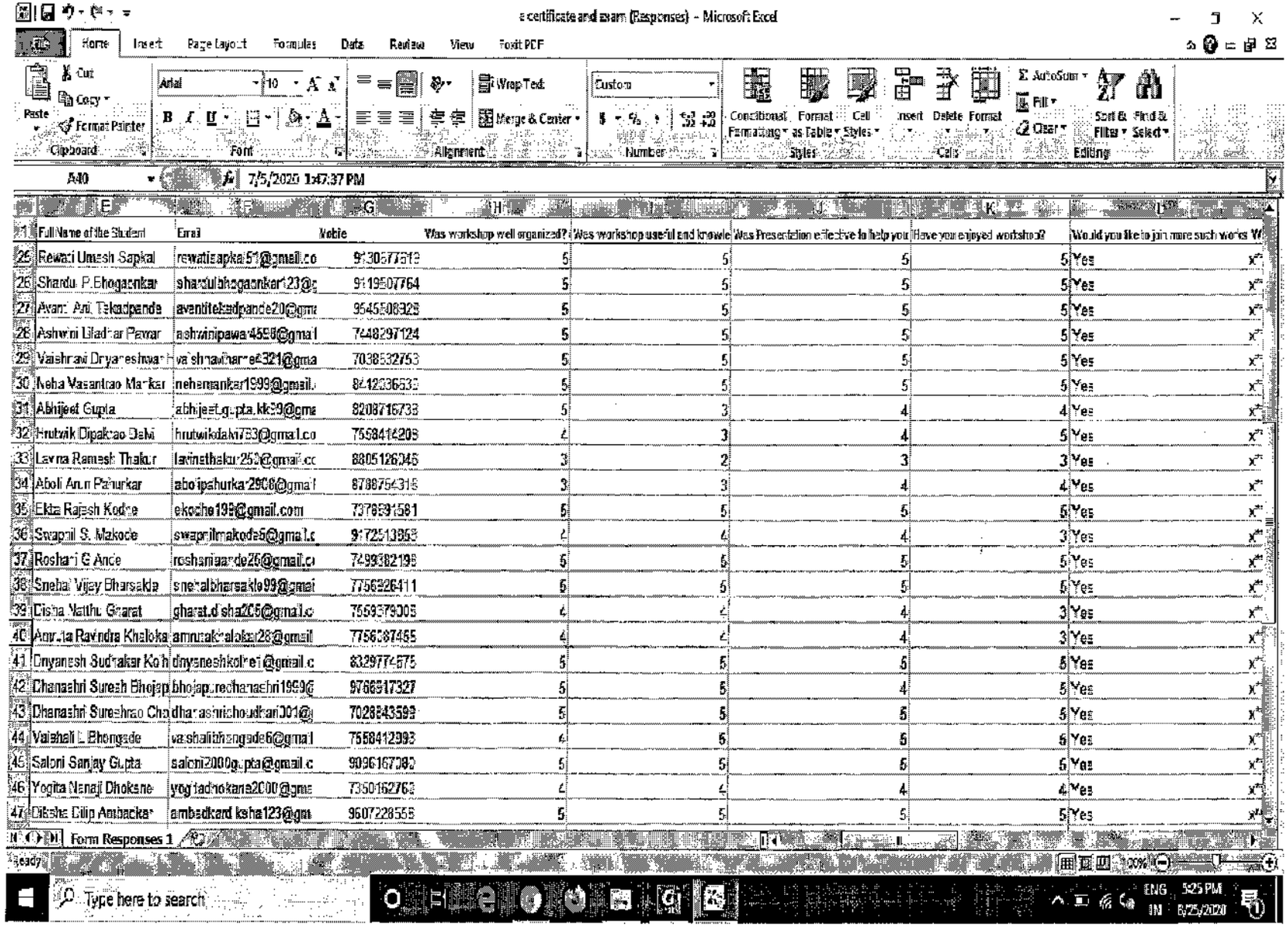
e certificate and exam (Responses) - Microsoft Excel

A40 | 7/5/2020 1:47:37 PM

	E	F	G	H	I	J	K	L	
1	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works	W
2	Nainika Arvindrao Gangan	nainikagangane2000@gm	6830996985	5	5	5	5	Yes	x
3	Rupali Vitthal Marke	rupalimarke123@gmail.co	9356872259	5	5	5	5	Yes	x
4	MOHAN R. SARDAR	mohansardar76 @gmail.c	8600573732	4	5	5	5	Yes	x
5	Pooja Gajanan Ambalkar	ambalkarp55@gmail.com	9850948304	5	5	5	5	Yes	x
6	Kartik Kakad	kartikkakad77@gmail.co	8237271921	5	5	5	5	Yes	x
7	Shruti Sanjay Belokar	belokarshruti@gmail.com	9834129329	5	5	5	4	Yes	x
8	Divya Diwakar Kharbade	divyakharbade@gmail.co	9834406176	5	5	5	5	Yes	x
9	Sakshi Sudhir Malasane	sakshimalasane@gmail.c	9284329040	5	5	5	5	Yes	x
10	Pratiksha Dnyaneshwar S	pratikshasable936@gmai	7743968872	4	4	3	4	Yes	x
11	Sakshi Suresh Tidake	sakshitidake3@gmail.co	8459984336	5	5	5	5	Yes	x
12	Ankita Anantrao Deshmu	ankudeshmukh93@gmail	7385478961	5	5	5	5	Yes	x
13	Vaishnavi Pawar	vaishnavipawar992@gmai	8177990072	5	5	5	5	Yes	x
14	Sunny Tawar	sunnytawarrajput@gmail.	+91 8605839845	5	5	5	5	Yes	x
15	Samiksha Surajsingh Tha	thakursamiksha12345@g	8087800146	5	5	5	5	Yes	x
16	Aarti Omkarrao Gade	aartigade1999@gmail.co	9881954404	5	5	5	5	Yes	x
17	Dhananjay Sanjay Katre	dhananjaykatre05@gmail	8007195971	5	5	4	4	Yes	x
18	Shweta Mohan Anasane	shwetaanasane195@gma	8999453371	5	5	5	5	Yes	x
19	Rutuja pramod Ghatole	rutujaghatole4@gmail.co	9767568392	5	5	5	5	Yes	x
20	Shraddha Harne	Shraddhaharne25@gmai	9657796902	5	5	5	5	Yes	x
21	Rakhi vasudeo javanjal	rakhijavanja98@gmail.co	9834935755	4	5	4	5	Yes	x
22	Mrunali Dnyaneshwar Mo	mrunalimohod1999@gma	7770071418	5	5	5	5	Yes	x
23	Rutuja Suresh kalbande	rutujakalbande1230@gma	8459357563	4	4	4	3	Yes	x
24	Monali Vijaykumar Bhutad	bhutadamonali@gmail.co	8975465208	5	5	5	5	Yes	x

Form Responses 1


e-certificate and exam (Responses) - Microsoft Excel
Home
Insert
Page Layout
Formulas
Data
Review
View
Foxit PDF
A40
7/5/2020 1:47:37 PM
Full Name of the Studen
Email
Mobile
Was workshop well organized?
Was workshop useful and knowle
Was Presentation effective to help you
Have you enjoyed workshop?
Would you like to join more such works
Rewati Umesh Sapkal
rewatisapkal61@gmail.co
9130877619
Shardul P.Bhogaonkar
shardulbhogaonkar123@g
9119507754
Avanti Anil Tekadpande
avantitekadpande20@gma
9545503928
Ashwini Liladhar Pawar
ashwinipawar4598@gmail
7448297124
Vaishnavi Dnyaneshwar H
vaishnavihame4321@gma
7038632753
Neha Vasantrao Mankar
nehamankar1999@gmail.
8412036630
Abhijeet Gupta
abhijeet.gupta.kk99@gma
9208715738
Hrutvik Dipakrao Dalvi
hrutvikdalvi783@gmail.co
7558414208
Lavina Ramesh Thakur
lavinathakur25@gmail.co
8806126046
Abali Arun Pahurkar
abolipahurkar2908@gmail
8788754316
Ekta Rajesh Kodha
ekodhe199@gmail.com
7378691691
Swapnil S. Makode
swapnilmakode5@gmail.c
9172513853
Roshani G Ande
roshaniande25@gmail.co
7499362198
Snehal Vijay Bharsakle
snehalbharsakle99@gmai
7756928411
Disha Nathu Gharat
gharat.disha205@gmail.c
7559379036
Amruta Ravindra Khalekar
amrutakhalekar28@gmail
7756087455
Dnyanesh Sudhakar Kolhe
dnyaneshkolhe1@gmail.c
8329774675
Dhanashri Suresh Bhojap
bhojapuredhanashri199@
3756917327
Dhanashri Sureshrao Cho
dhanashrichoudhari001@
7028543639
Vaishali L Bhongade
vaishalibhongade6@gmail
7558412993
Saloni Sanjay Gupta
saloni2000gupta@gmail.c
9096167030
Yogita Nanaji Dhokane
yogitadhokane2000@gma
7350162750
Diksha Dilip Ambedkar
ambedkardiksha123@gm
9607228558
Form Responses 1
Ready
Type here to search
ENG
IN
5:25 PM
8/25/2020



e certificate and exam (Responses) - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Foxit PDF

A40 7/5/2020 1:47:37 PM

	E	F	G	H	I	J	K	L
24	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works W
25	Rewati Umesh Sapkal	rewatisapkal51@gmail.co	9130577319	5	5	5	5	Yes
26	Shardu. P.Bhogaonkar	shardulbhogaonkar123@g	9119507764	5	5	5	5	Yes
27	Avanti Anil Tekadpande	avantitekadpande20@gma	9545508928	5	5	5	5	Yes
28	Ashwini Liladhar Pawar	ashwinipawar4598@gmail	7448297124	5	5	5	5	Yes
29	Vaishnavi Dnyaneshwar	vaishnavibarne321@gma	7038532753	5	5	5	5	Yes
30	Neha Vasantrao Mankar	nehamankar1999@gmail.	8412336533	5	5	5	5	Yes
31	Abhijeet Gupta	abhijeet.gupta.kk99@gma	8208716733	5	3	4	4	Yes
32	Hrutvik Dipakrao Dalvi	hrutvikdalvi783@gmail.co	7558414209	4	3	4	5	Yes
33	Lavina Ramesh Thakur	lavinathakur252@gmail.co	8805126245	3	2	3	3	Yes
34	Aboli Arun Pathurkar	aboipathurkar2908@gmail	8788754316	3	3	4	4	Yes
35	Ekta Rajesh Kodre	ekodre199@gmail.com	7378691581	5	5	5	5	Yes
36	Swapnil S. Makode	swapnilmakode5@gmail.c	9172513853	4	4	4	3	Yes
37	Roshani G Ance	roshaniance26@gmail.co	7499382198	5	5	5	5	Yes
38	Sneha Vijay Bharsakle	snehalbharsakle99@gmai	7756926411	5	5	5	5	Yes
39	Disha Vatthu Gharat	gharat.disha25@gmail.co	7559379005	4	4	4	3	Yes
40	Amrita Ravindra Khaloka	amrutakhalokar28@gmail	7756387455	4	4	4	3	Yes
41	Dnyanesh Sudhakar Kolhe	dnyaneshkolhe1@gmail.c	8329774575	5	5	5	5	Yes
42	Dhanashri Suresh Bhojap	bhojap.dhanashri1999@	9766917327	5	5	4	5	Yes
43	Dhanashri Sureshrao Cha	dhanashrichoudhari301@	7028943599	5	5	5	5	Yes
44	Vaishali L Bhongade	vaishalibhongade6@gmail	7558412993	4	5	5	5	Yes
45	Saloni Sanjay Gupta	saloni2000gupta@gmail.c	9096167082	5	5	5	5	Yes
46	Yogita Nanaji Dhoksane	yogitadhoksane2000@gma	7350162763	4	4	4	4	Yes
47	Diksha Dilip Ambadkar	ambadkard.ksha123@gm	9607228558	5	5	5	5	Yes

Form Responses 1

Ready

Type here to search

ENG IN 5:25 PM 8/25/2020

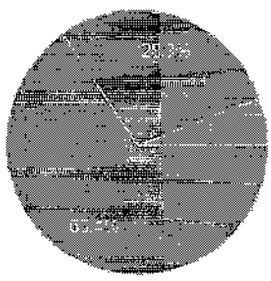
8740

Analysis and Action Taken

Feedback Form

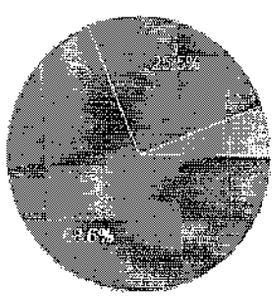
1. The experience of the session was

52 responses



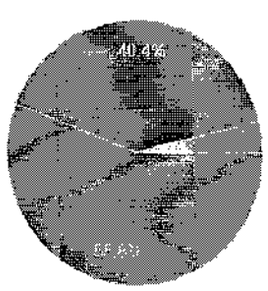
2. How was the Content delivered ?

51 responses



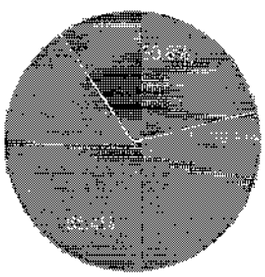
3. How was the event Structure ?

52 responses



4. Overall experience of the session

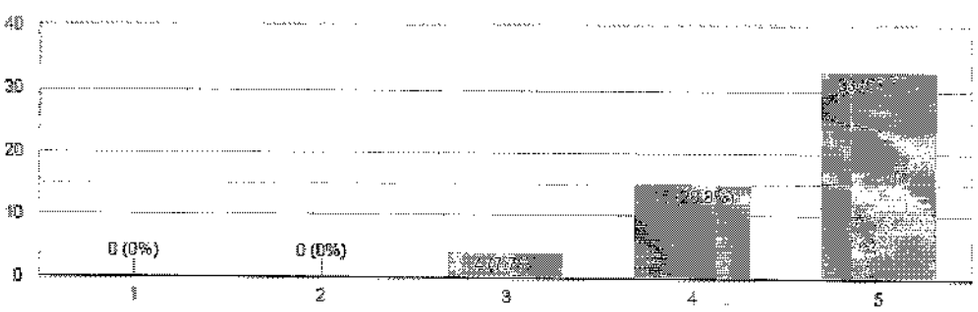
52 responses



Completely Satisfying
Satisfying
Average
Not Satisfying

5. How will you rate the session?

52 responses



P. R. POTE (PATIL) EDUCATIONAL AND WELFARE TRUST'S, GROUP OF INSTITUTIONS,
COLLEGE OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that

Mr. Abhay Dhande

has successfully completed One week Workshop on "Insights of Electronic Circuits Behavior through QUCS" organized by Department Of Electronics & Telecommunication Engineering of P. R. Pote (Patil) Educational and Welfare Trust's, Group of Institutions, College of Engineering and Management, Amravati, held during 17/03/2021 to 22/03/2021.

Prof. Aniket R. Pawade,
Workshop Coordinator

Dr. Rahul Ghongade
HOD E&TC

Course Record (student attendance, assignments, marks obtained)

P. R. Pote (Patil) Edn. & Welfare Trust's, College of Engg. & Management, Amravati		
Department of Electronics & Telecommunication Engg.		
Python Programming Workshop Att		
Timestamp	Email Address	Full Name
6-25-2020 15:41:57	pranavbaghele@gmail.com	Pranavbaghele
6-25-2020 15:41:57	bhartiakshay57@gmail.com	Akshay sunil Bharti
6-25-2020 15:41:57	shubhambonde139@gmail.com	Shubham annabhau bonde
6-25-2020 15:41:57	abhishekgohatre@gmail.com	Abhishek N.Gohatre
6-25-2020 15:41:57	aniketmohod81@gmail.com	Aniket Nandkishor Mohod
6-25-2020 15:41:57	surakshavbarve17@gmail.com	Suraksha Barve
6-25-2020 15:41:57	jaynimbalkar38@gmail.com	Suyash Nimbalkar
6-25-2020 15:41:57	pratishvarma@gmail.com	Pratish Subhashji Varma
6-25-2020 15:41:57	maheshdhoran5456@gmail.com	Mahesh Dhoran
6-25-2020 15:41:57	ramholey1998@gmail.com	Ram Gajanan Holey
6-25-2020 15:41:57	dhanashrigosavi011@gmail.com	Dhanashri Gosavi
6-25-2020 15:41:57	praags777@gmail.com	Pragati Lalbhadur Verma
6-25-2020 15:41:57	mayur.barai01@gmail.com	Mayur Ashokrao Barai
6-25-2020 15:41:57	pathanasim1998@gmail.com	Asim Pathan
6-25-2020 15:41:57	gauritayde230@gmail.com	Gauri Vijayrao Tayde
6-25-2020 15:41:57	faizahmedfak@gmail.com	Faiz Ahmed Khan
6-25-2020 15:41:57	krutikavinchurkar8689@gmail.com	Krutika Sushil Vinchurkar
6-25-2020 15:41:57	shoyebkhan21@gmail.com	Shoyeb Muhammad
6-25-2020 15:41:57	nikhilmanekar786@gmail.com	Nikhil Sanjay Manekar
6-25-2020 15:41:57	mayuriingole111@gmail.com	Mayuri S Ingole
6-25-2020 15:41:57	kashifshadab.7777@gmail.com	Kashif shadab mohammad salim
6-25-2020 15:41:57	pujanimkale@gmail.com	Puja Nimkale
6-25-2020 15:41:57	deepeshnakhale21@gmail.com	Deepesh Ravindra Nakhale
6-25-2020 15:41:57	shivanigotmare1908@gmail.com	Shivani Vijay Gotmare
6-25-2020 15:41:57	mehulvsuramwar@gmail.com	Mehul Vilas Suramwar
6-25-2020 15:41:57	mohininarale99@gmail.com	Mohini M Narale
6-25-2020 15:41:57	sametkar5012@gmail.com	Samiksha Anil Metkar
6-25-2020 15:41:57	shivukalivkar@gmail.com	Shivani Ashokrao Kalivkar

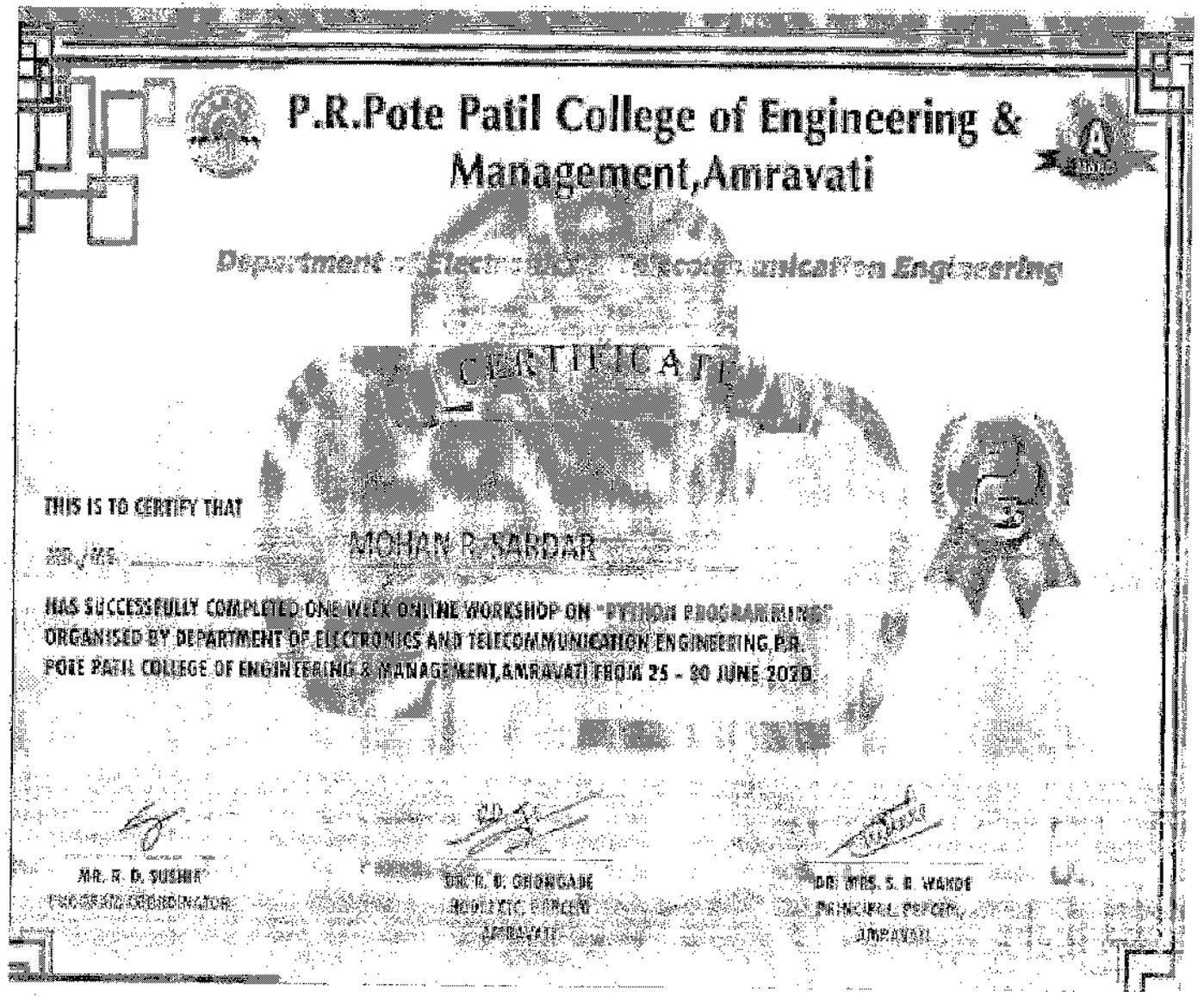
6-25-2020 15:41:57	pranavgangan417@gmail.com	Pranav Rajesh Gangan
6-25-2020 15:41:57	divyashreemule70@gmail.com	Divyashree Satyashil Mule
6-25-2020 15:41:57	nishantkale5@gmail.com	Nishant kale
6-25-2020 15:41:57	anagha2kalmegh@gmail.com	Anagha kalmegh
6-25-2020 15:41:57	madhurikabelsare@gmail.com	Madhurika Belsare
6-25-2020 15:41:57	saqlainquazi09@gmail.com	Saqlainuddin Qazi
6-25-2020 15:41:57	ardakneha@gmail.com	Neha Raju Ardak
6-25-2020 15:41:57	srushtikhandare30@gmail.com	Srushti gautam khandare
6-25-2020 15:41:57	devika.81099@gmail.com	Devika Ramhari Wankhade
6-25-2020 15:41:57	surakshabhele@gmail.com	Suraksha Bhele
6-25-2020 15:41:57	ashuaraut21@gmail.com	Ashutosh Raut
6-25-2020 15:41:57	shreyashgedam123@gmail.com	Shreyas devidas gedam
6-25-2020 15:41:57	shoebsorathiya715@gmail.com	Mohammad Shoeb Mohammad Firoz Sorathiya
6-25-2020 15:41:57	waghmareaniket7@gmail.com	Aniket Waghmare
6-25-2020 15:41:57	nehadhole4@gmail.com	Niha Shyam Dhole
6-25-2020 15:41:57	maheshdeoghare40@gmail.com	Mahesh Deoghare
6-25-2020 15:41:57	nilimagawali1234@gmail.com	Nilima Gawali
6-25-2020 15:41:57	mohitdholee@gmail.com	mohit dhole
6-25-2020 15:41:57	rajsutane@gmail.com	Raj Sutane
6-25-2020 15:41:57	pranaliingole09@gmail.com	Pranali Ingole
6-25-2020 15:41:57	purvanimbhorkar@gmail.com	Purva Dnyaneshwarrao Nimbhorkar
6-25-2020 15:41:57	karandhuratkar28@gmail.com	Karan Dhuratkar
6-25-2020 15:41:57	shrutikakuware1999@gmail.com	Shrutika Liladhar Kuware
6-25-2020 15:41:57	prajaktatayade16@gmail.com	Prajakta Arun Tayade
6-25-2020 15:41:57	prasadalamwar@gmail.com	Prasad Alamwar
6-25-2020 15:41:57	GHANSHAMLUNGE111@GMAIL.COM	GHANSHYAM GOPAL LUNGE
6-25-2020 15:41:57	prajwalgawande492@gmail.com	Prajwal Rajendra Gawande
6-25-2020 15:41:57	roshanibhoyar27@gmail.com	Roshani Ramdas Bhoyar

R. D. Sushir

Programme Coordinator

Dr. R. D. Ghongade

HoD, EXTC Department



P.R.Pote Patil College of Engineering & Management,Amravati

Department of Electronics & Telecommunication Engineering

CERTIFICATE

THIS IS TO CERTIFY THAT

Mr./Ms. MOHAN R. SABDAR

HAS SUCCESSFULLY COMPLETED ONE WEEK ONLINE WORKSHOP ON "PYTHON PROGRAMMING" ORGANISED BY DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING,P.R. POTE PATIL COLLEGE OF ENGINEERING & MANAGEMENT,AMRAVATI FROM 25 - 30 JUNE 2020

MR. N. D. SUSHIR
PROGRAM COORDINATOR

DR. R. D. GHONGADE
HOD,ETC, P.R.P.C.E.M.
AMRAVATI

DR. MRS. S. R. WANDE
PRINCIPAL, P.R.P.C.E.M.
AMRAVATI

P. R. Pote Patil College of Engineering and Management, Amravati

Department of Electronics & Telecommunication Engg.

Report on

Workshop on

"Insights of Electronic circuits behavior through QUCS"

Name of Course	Insights of Electronic circuits behavior through QUCS
Nature of Course	Training
Career Opportunity	Electronics Engineer. Electronics Design Engineer. Desktop Support Engineer. Service Engineer. Communications Engineer. Technical Director. Network Planning Engineer.
Objectives of the Course	Acquaint participants with the basics of QUCS tool and its application areas. Impart knowledge on the advanced QUCS tool and different concepts that will be helpful to build real time applications. Enable participant to convert their product idea into a working prototype. Bring-up participant to new innovation in the field of electronics.
Outcomes of the Course	To explain basic QUCS tool and its application. To describe the QUCS tool and compare its configuration.
Name of Resource Person	Prof. Aniket R. Pawade
Course Duration	17th -22nd March 2021
Target Participants	Students of Department of Electronics and Telecommunication Engineering.

Course Structure & Syllabus

Chapter One: Fundamentals of QUCS tool

- Introduction to QUCS tool
- Running QUCS tool
- Writing QUCS tool Code

Chapter Two: Working with Data

- Data Types and Variables
- Using Numeric Variables
- Using String Variables

Chapter Three: Input and Output

- Printing with Parameters
- Getting Input from a User
- String Formatting

Chapter Four: Making Decisions

- Logical Expressions
- The "if" Statement
- Logical Operators
- More Complex Expressions

Chapter Five: Real time applications

- Adder
- Subtractor
- Register
- Buffer

P. R. Pote (Patil) Edu. & Welf.Trusts Group of Institutions College of Engineering & Management, Amravati.

Department of Electronics & Telecommunication Engg.

Session 2020-21

ETSA

(*Electronics &Telecommunication Engineering Student Association*)

NOTICE

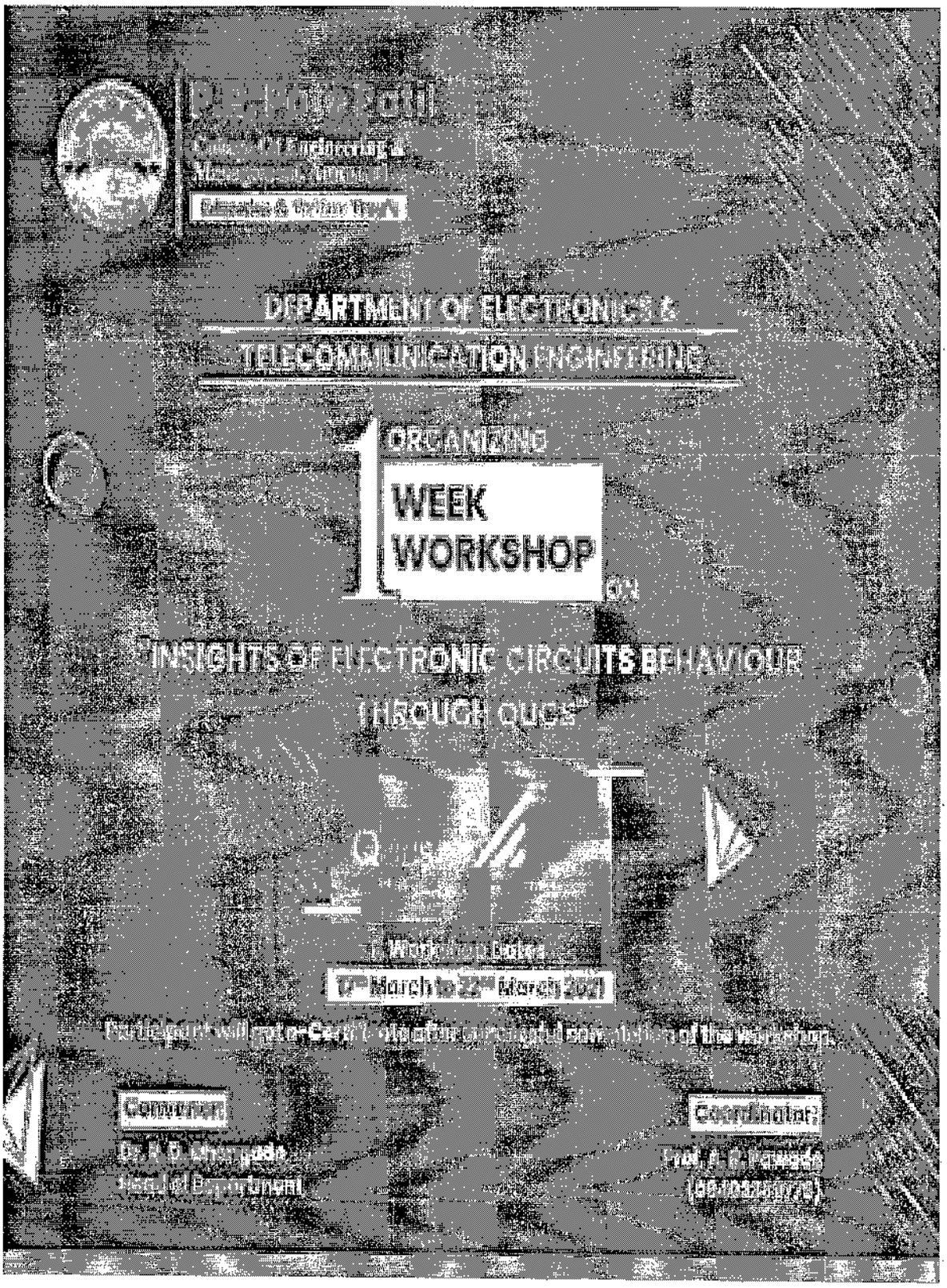
Date: 10th March 2021

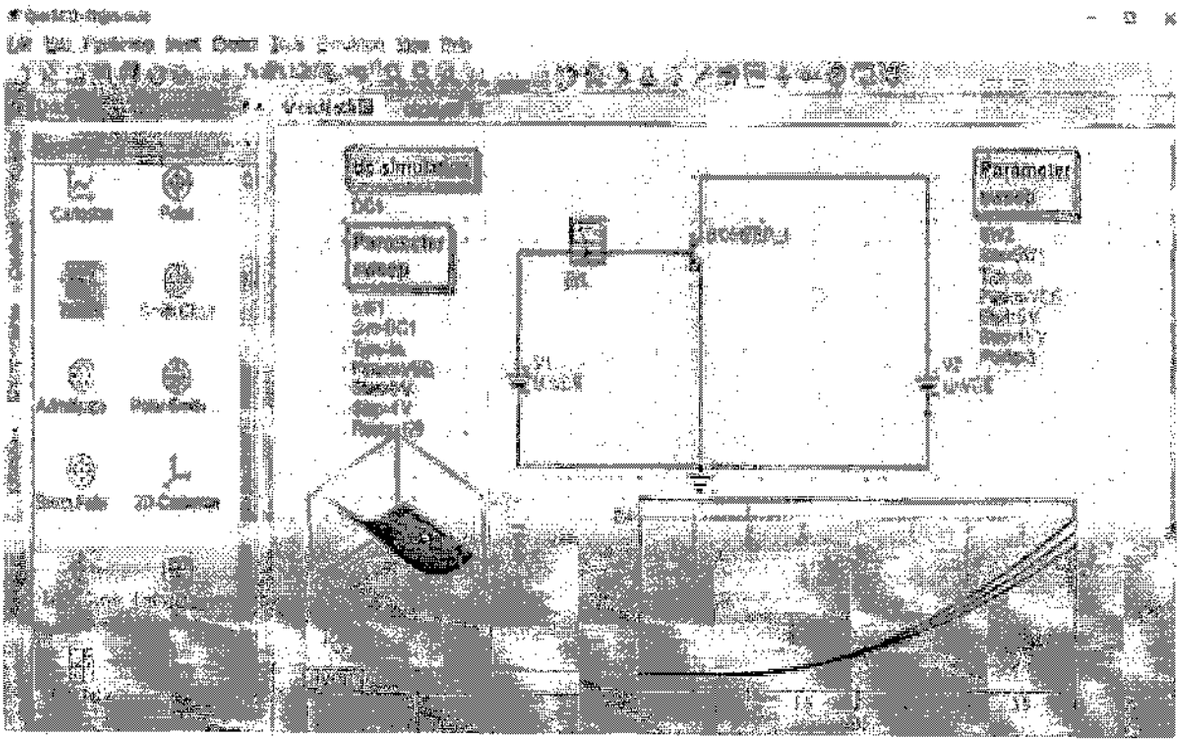
All the students of Electronics & Telecommunication Engg. Dept. are hereby informed that, our department is going to organize **Workshop on "Insights of Electronic circuits behavior through QUCS"** from 17/03/2021 to 22/03/2021. All the students of Third year are hereby informed that they have to register for Workshop.

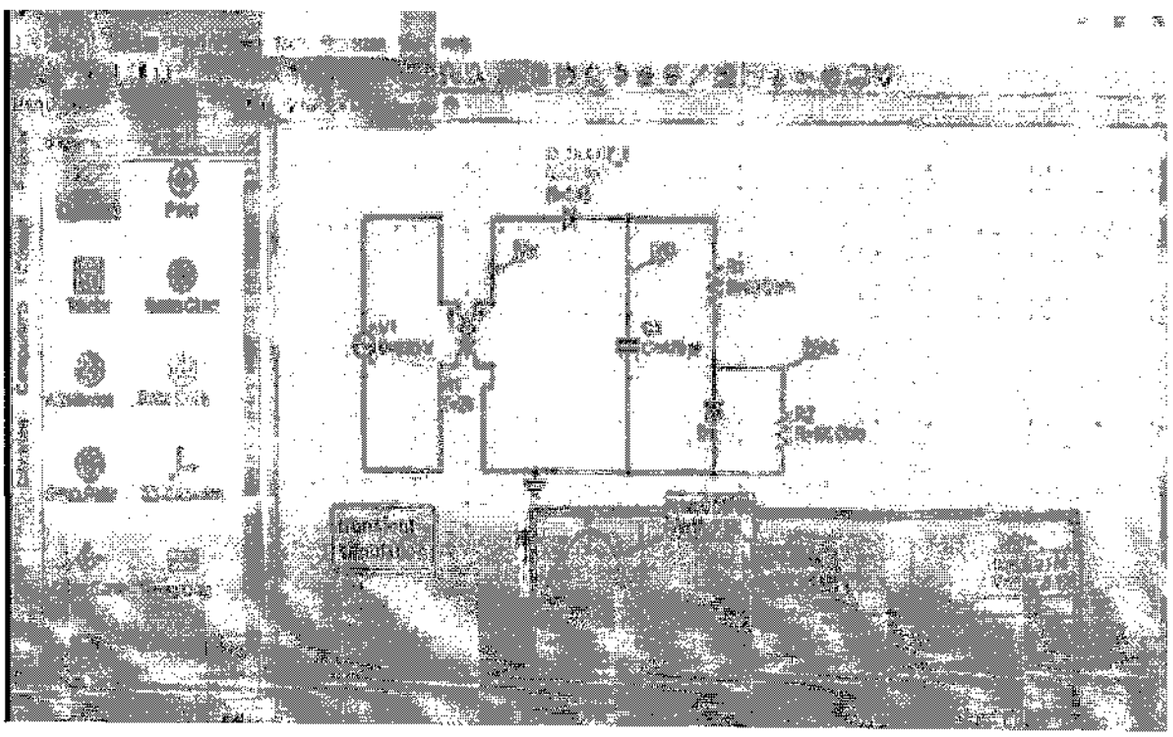
Faculty Coordinator

HOD (EXTC)

Snapshots of the Programs







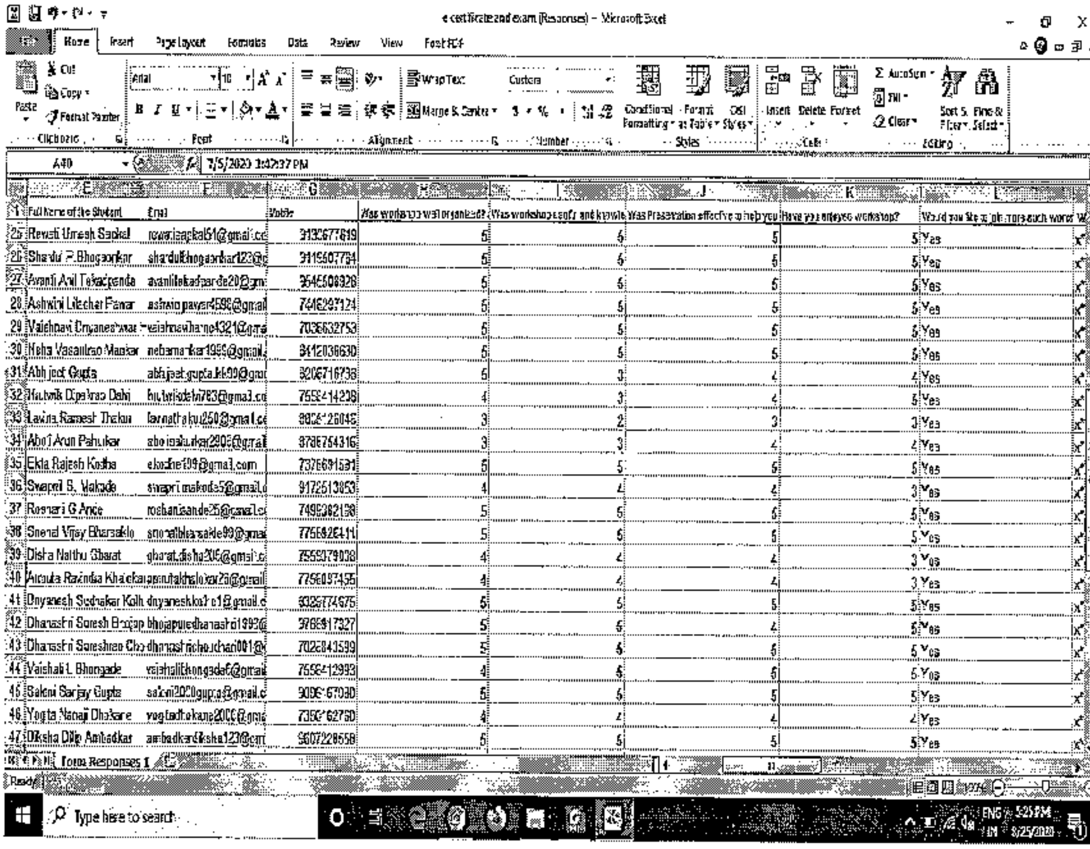
Participant Feedback

e certificate and exam (Responses) - Microsoft Excel

A40 — 7/5/2020 1:47:37 PM

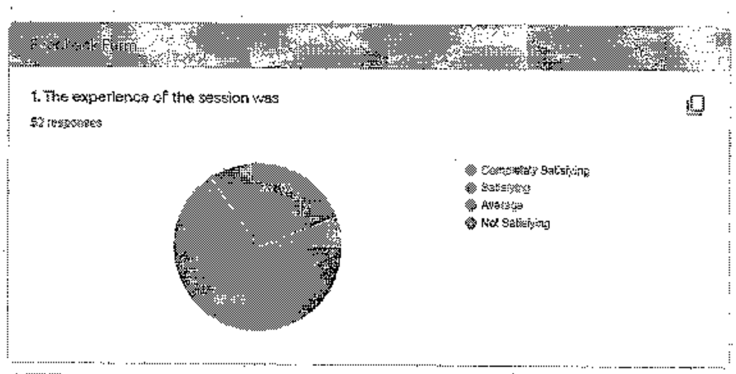
Row	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop useful and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works
2	Nairika Arvinrao Gangan	nairikagangane2000@gm	8830936985	5	5	5	5	Yes
3	Rupali Vitthal Marke	rupalimarke123@gmail.co	9356872259	5	5	5	5	Yes
4	MOHAN R. SARDAR	mohansardar76 @gmail.c	8600573732	4	5	5	5	Yes
5	Pooja Gajanan Ambalkar	ambalkarp55@gmail.com	9850948204	5	5	5	5	Yes
6	Kartik Kakad	kartikkakad77@gmail.cor	8237271521	5	5	5	5	Yes
7	Shruti Sanjay Belokar	belokarshruti@gmail.com	9834129329	5	5	5	4	Yes
8	Divya Diwakar Kharbade	divyakharbade@gmail.coc	9834406176	5	5	5	5	Yes
9	Sakshi Sudhir Malasare	sakshimalasare@gmail.c	9284329010	5	5	5	5	Yes
10	Pratiksha Dnyaneshwar S	pratikshasable998@gmail	7743958872	4	4	3	4	Yes
11	Sakshi Suresh Tidake	sakshitidake.3@gmail.co	8459984335	5	5	5	5	Yes
12	Ankita Anantrao Deshmuk	ankudeshmukh98@gmail.	7385478561	5	5	5	5	Yes
13	Vaishnavi Pawar	vaishnavipawar992@gmai	8177990072	5	5	5	5	Yes
14	Sunny Tawar	sunnytawarrajput@gmail.	+918805539845	5	5	5	5	Yes
15	Samiksha Swajsingh Tha	thakursamiksha12345@g	8087830146	5	5	5	5	Yes
16	Aarti Omkarrao Gade	aartigade1999@gmail.cor	9881954404	5	5	5	5	Yes
17	Dhananjay Sanjay Katre	dhananjaykatre05@gmail	0007135971	5	5	4	4	Yes
18	Shweta Mohan Atasare	shwetaatasare195@gma	8999453371	5	5	5	5	Yes
19	Rutuja pramod Ghatole	rutujaghatole4@gmail.cor	9767558392	5	5	5	5	Yes
20	Shraddha Harne	Shraddhaharne25@gmail.	9657736592	5	5	5	5	Yes
21	Rakhi vasudeo javanjal	rakhijavanja98@gmail.co	9834935755	4	5	4	5	Yes
22	Murali Dnyaneshwar Mo	mrunalimohod1993@gma	7770071418	5	5	5	5	Yes
23	Rutuja Suresh kalbande	rutujakalbande1220@gma	8459357563	4	4	4	3	Yes
24	Monali Vijaykumar Bhutad	bhutadamonali@gmail.co	8975435208	5	5	5	5	Yes
25	Rewati Umesh Sapkal	rewatisapkal51@gmail.co	9130677619	5	5	5	5	Yes
26	Shardul P.Bhogaonkar	shardu bhogaonkar123@	9119507764	5	5	5	5	Yes
27	Avanti Anil Tekadpande	avanttekadpande20@gm	9545508928	5	5	5	5	Yes
28	Ashwini Uadhav Pawar	ashwinipawar4568@gmail	7448297124	5	5	5	5	Yes
29	Vaishnavi Dnyaneshwar H	vaishnavharne4321@gma	7038632753	5	5	5	5	Yes
30	Neha Vasantrao Mankar	nehamankar1999@gmail.	8412038630	5	5	5	5	Yes
31	Abhijeet Gupta	abhijeet.gupta.kk99@gm	8208716738	5	3	4	4	Yes
32	Hrutwik Dipakrao Dalvi	hrutwikdalvi763@gmail.co	7558414238	4	3	4	5	Yes
33	Lavina Ramesh Thakur	lavinathakur260@gmail.c	8805126046	3	2	3	3	Yes
34	Aboli Arun Pahurkar	abolipahurkar2908@gmail	8788764316	3	3	4	4	Yes
35	Ekta Rajesh Kodhe	ekodhe199@gmail.com	7378391531	5	5	5	5	Yes
36	Swapnil S. Makode	swapnilmakode5@gmail.c	9172513853	4	4	4	3	Yes
37	Roshani G Ande	roshanaande25@gmail.c	7499382138	5	5	5	5	Yes
38	Snehal Vijay Bharsakle	snehalbharsakle99@gmai	7756926411	5	5	5	5	Yes
39	Disha Nathu Gharat	gharat.disha205@gmail.c	7589379038	4	4	4	3	Yes
40	Amruta Ravindra Khaloka	amrutakhalokar28@gmail	7756087456	4	4	4	3	Yes
41	Dnyanesh Sudhakar Kolh	dnyaneshkolhe1@gmail.c	8329774675	5	5	5	5	Yes
42	Dhanashri Suresh Bhojap	bhojapuredhanashri1999	9765317327	5	5	4	5	Yes
43	Dhanashri Sureshrao Cho	dhanashrichoudhari001@	7028843539	5	5	5	5	Yes
44	Vaishali L Bhongade	vaishalibhongade6@gmail	7558412933	4	5	5	5	Yes
45	Saloni Sanjay Gupta	saloni2030gupta@gmail.c	9096167080	5	5	5	5	Yes
46	Yogita Nanaji Chokane	yogitachokane2000@gma	7350162750	4	4	4	4	Yes
47	Diksha Dilip Ambadkar	ambadkardiksha123@gm	9607228558	5	5	5	5	Yes

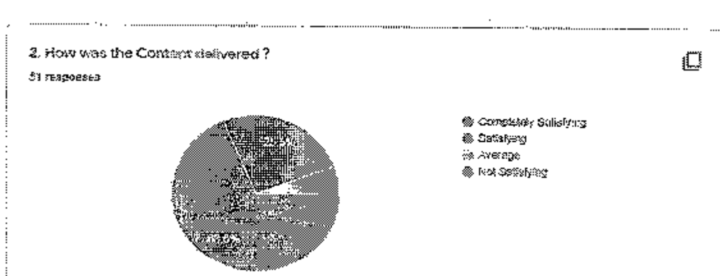
Form Responses 1

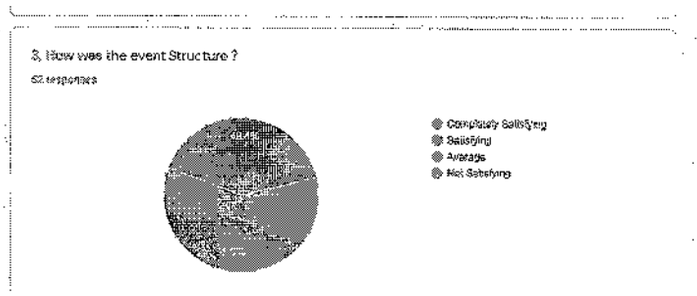


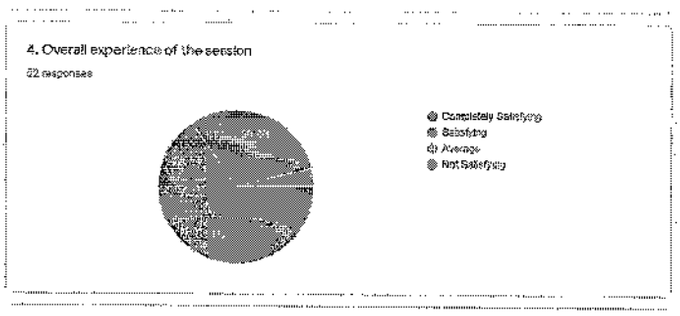
	Full Name of the Student	Email	Mobile	Was workshop well organized?	Was workshop easy and knowle	Was Presentation effective to help you	Have you enjoyed workshop?	Would you like to join more such works	W
25	Revati Umesh Sapkal	rewatisapkal51@gmail.co	9130677619	5	5	5	5	Yes	x
26	Shardul P. Bhogaonkar	shardulbhogaonkar123@g	9115607754	5	5	5	5	Yes	x
27	Avanti Anil Tekadpande	avantitekadpande20@gm	9545508926	5	5	5	5	Yes	x
28	Ashwini Lilachar Pawar	ashwinipawar4596@gmail	7416297124	5	5	5	5	Yes	x
29	Vaishnavi Dnyaneshwar	vaishnavitharne4321@gma	7038632753	5	5	5	5	Yes	x
30	Neha Vasantrao Mankar	nehamankar1999@gmail	8412036630	5	5	5	5	Yes	x
31	Abhijeet Gupta	abhijeet.gupta.kk99@gma	8208716738	5	3	4	4	Yes	x
32	Hrutvik Dipakrao Dahi	hrutvikdahi783@gmail.co	7559414208	4	3	4	5	Yes	x
33	Lavina Ramesh Thakur	lavnathakur250@gmail.co	9834126046	3	2	3	3	Yes	x
34	Aboli Arun Pahurkar	abolipahurkar2905@gmail	9786754316	3	3	4	4	Yes	x
35	Ekta Rajesh Kodhe	ekodhe109@gmail.com	7376691531	5	5	5	5	Yes	x
36	Swapnil S. Makode	swapnilmakode5@gmail.c	9172513853	4	4	4	3	Yes	x
37	Roshani G Ande	roshaniande25@gmail.co	7499382198	5	5	5	5	Yes	x
38	Snehal Vijay Bharsakle	snehalbharsakle99@gmai	7756926411	5	5	5	5	Yes	x
39	Disha Naithu Gharat	gharat.disha205@gmail.c	7559079038	4	4	4	3	Yes	x
40	Amruta Ravindra Khalokar	amrutakhalokar26@gmail	7756097455	4	4	4	3	Yes	x
41	Dnyanesh Sudhakar Kolh	dnyaneshkolhe1@gmail.c	9325774675	5	5	5	5	Yes	x
42	Dhanashri Suresh Bhojap	bhojapuredhanashri1993@	9766917327	5	5	4	5	Yes	x
43	Dhanashri Sureshrao Cho	dhanashrichoudhari001@	7028840599	5	5	5	5	Yes	x
44	Vaishali L Bhongade	vaishalibhongade6@gmail	7558412993	4	5	5	5	Yes	x
45	Saloni Sanjay Gupta	saloni2020gupta@gmail.c	9096167030	5	5	5	5	Yes	x
46	Yogita Nanaji Dhokane	yogitadhokane2000@gma	7350162750	4	4	4	4	Yes	x
47	Diksha Dilip Ambadkar	ambadkardiksha123@gm	9607228558	5	5	5	5	Yes	x

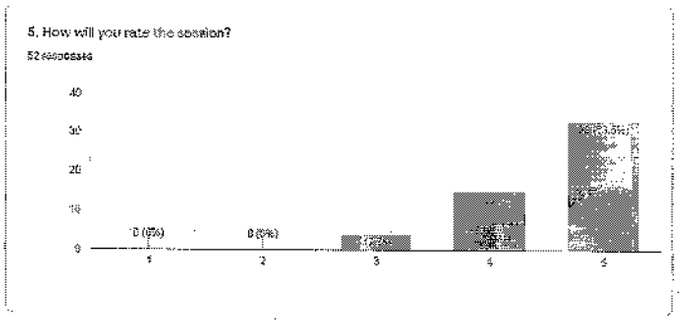
Analysis and Action Taken



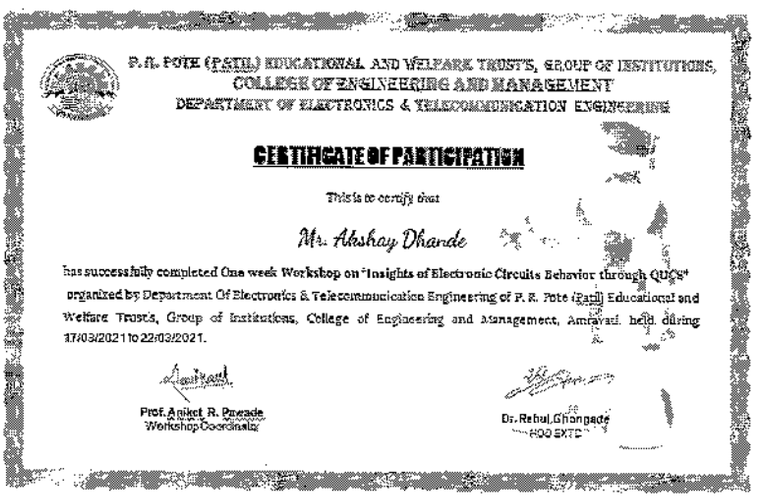








Certificates, Rewards



P. E. POTE (PATIL) EDUCATIONAL AND WELFARE TRUST'S, GROUP OF INSTITUTIONS,
COLLEGE OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that

Mr. Akshay Dhande

has successfully completed One week Workshop on "Insights of Electronic Circuits Behavior through QUCS" organized by Department Of Electronics & Telecommunication Engineering of P. E. Pote (Patil) Educational and Welfare Trusts, Group of Institutions, College of Engineering and Management, Amravati. held during 17/03/2021 to 22/03/2021.

Prof. Aniket R. Pawade
Workshop Coordinator

Dr. Rahul Ghongade
HOD EXTC

Course Record (student attendance, assignments, marks obtained)

P. R. Pote (Patil) Edn. & Welfare Trust's, College of Engg. & Management, Amravati		
Department of Electronics & Telecommunication Engg.		
Workshop on "Insights of Electronic circuits behavior through QUCS" Att		
Timestamp	Email Address	Full Name
3/17/2021 12:10:26	ashishthakare950@gmail.com	Ashish vijayrao Thakare
3/17/2021 12:12:26	surajathargade03@gmail.com	Suraj Diwakar Athargade
3/17/2021 12:13:08	karanthakur737@gmail.com	Karansingh Bunshbhushansingh Bais
3/17/2021 12:13:29	waghmareaniket7@gmail.com	Aniket Waghmare
3/17/2021 12:16:43	akanshabhalerao1000@gmail.com	Akansha Bhalerao
3/17/2021 12:18:14	ramholey1998@gmail.com	Ram gajanan holey
3/17/2021 12:22:56	shoebsorathiya715@gmail.com	Mohammad Shoeb Mohammad Firoz Sorathiya
3/17/2021 12:24:53	prabhatzade1507@gmail.com	Prabhat Zade
3/17/2021 12:26:21	vivekdhole0950@gmail.com	Vivek ganeshrao dhole
3/17/2021 12:26:32	abhikharode1@gmail.com	Abhijeet Vinodrao Kharode
3/17/2021 12:28:28	shoyebkhan21@gmail.com	Shoyeb Muhammad
3/17/2021 12:29:45	chaitalimangate1998@gmail.com	Chaitali Manohar Mangate
3/17/2021 12:31:05	aniketmohod81@gmail.com	Aniket Nandkishor Mohod
3/17/2021 12:31:46	siddhidiwan12@gmail.com	Siddhi Diwan
3/17/2021 12:32:12	madhurikabelsare@gmail.com	Madhurika Belsare
3/17/2021 12:32:21	roshanibhoyar27@gmail.com	Roshani Ramdas Bhoyar
3/17/2021 12:33:39	deepeshnakhale21@gmail.com	Deepesh Ravindra Nakhale
3/17/2021 12:33:52	mohitdholee@gmail.com	Mohit dhole
3/17/2021 12:34:16	kashifshadab.7777@gmail.com	Kashif shadab
3/17/2021 12:36:40	anagha2kalmegh@gmail.com	Anagha kalmegh
3/17/2021 12:36:49	kaushik.rao09@gmail.com	Kaushik Raju Rao
3/17/2021 12:38:18	ranibarse89@gmail.com	Rani Barse
3/17/2021 12:38:25	maheshdeoghare40@gmail.com	Mahesh Deoghare
3/17/2021 12:39:49	anupdahule16@gmail.com	Anup Vinayak Dahule
3/17/2021 12:40:05	madhavisawarkar1999@gmail.com	Madhavi Rajendra Sawarkar
3/17/2021 12:40:16	ashuaraut21@gmail.com	Ashutosh Raut

3/17/2021 12:41:22	simranv773@gmail.com	Simran Ravindra Vyas
3/17/2021 12:41:47	jsaniya43@gmail.com	Monika Raju Shahare
3/17/2021 12:42:02	bhushanjawre71@gmail.com	Bhushan Jawre
3/17/2021 12:42:12	krutikavinchurkar8689@gmail.com	Krutika Sushil Vinchurkar
3/17/2021 12:45:29	ritadakhore27@gmail.com	Rita Dnyaneshwar Dakhore
3/17/2021 12:45:34	shrutikakuware1999@gmail.com	Shrutika Liladhar Kuware
3/17/2021 12:45:48	imranpande2017@gmail.com	Imran pande
3/17/2021 12:49:08	niteshparik1@gmail.com	Nitesh Parik
3/17/2021 12:56:48	joshihrushikesh98@gmail.com	Hrushikesh Joshi
3/17/2021 13:00:36	gyaneshsharma1997@gmail.com	gyanesh Manoj Sharma
3/17/2021 13:03:40	Samruddhipadole25@gmail.com	Samruddhi R Padole
3/17/2021 13:04:12	zeeshanshaikh790.zs@gmail.com	Zeeshan Shaikh
3/17/2021 13:04:51	samruddhimahalle123@gmail.com	Samruddhi Manoj Mahalle
3/17/2021 13:04:52	priyakukade3@gmail.com	Priya Kukade
3/17/2021 12:10:26	ashishthakare950@gmail.com	Ashish vijayrao Thakare
3/17/2021 12:12:26	surajathargade03@gmail.com	Suraj Diwakar Athargade
3/17/2021 12:13:08	karanthakur737@gmail.com	Karansingh Bunshbhushansingh Bais
3/17/2021 12:13:29	waghmareaniket7@gmail.com	Aniket Waghmare
3/17/2021 12:16:43	akanshabhalerao1000@gmail.com	Akansha Bhalerao
3/17/2021 12:18:14	ramholey1998@gmail.com	Ram gajanan holey
3/17/2021 12:22:56	shoebsorathiya715@gmail.com	Mohammad Shoeb Mohammad Firoz Sorathiya
3/17/2021 12:24:53	prabhatzade1507@gmail.com	Prabhat Zade
3/17/2021 12:26:21	vivekdhole0950@gmail.com	Vivek ganeshrao dhole
3/17/2021 12:26:32	abhikharode1@gmail.com	Abhijeet Vinodrao Kharode
3/17/2021 12:28:28	shoyebkhan21@gmail.com	Shoyeb Muhammad
3/17/2021 12:29:45	chaitalimangate1998@gmail.com	Chaitali Manohar Mangate
3/17/2021 12:31:05	aniketmohod81@gmail.com	Aniket Nandkishor Mohod

ONE WEEK INDUCTION PROGRAM

Date: 5th -10th April 2021

Online Platform: Google Meet

SCHEDULE

Sr. No.	Resource Person	Topic	Date of Conduction	Mode of Conduction	Time
1	**Dr. S. B. Warkad** (Dean R & D. PRPCE & M. Amravati)	Carrier Opportunities For Electrical Engineers	5th April 2021	Google Meet	4.00pm-5.00pm
2	**Prof. Y. D. Shahakar** (Assistant Professor, Elect. Deptt. PRPCE & M. Amravati)	Electrical Safety Awareness	6th April 2021	Google Meet	4.00pm-5.00pm
3	**Prof. A. A. Ghute** (Assistant Professor, Elect. Deptt. PRPCE & M. Amravati)	Basic Circuit Design & simulation using Proteus	7th April 2021	Google Meet	4.00pm-5.00pm
4	**Prof. D. A. Shahakar** (H. O. D., Elect. Deptt. PRPCE & M. Amravati)	Shifting Towards Positive Attitude	8th April 2021	Google Meet	4.00pm-5.00pm
5	**Dr. A. S. Telang** (Academic Incharge, Elect. Deptt. PRPCE & M. Amravati)	Mind Matters – Lets Talk about Covid -19	9th April 2021	Google Meet	4.00pm-5.00pm
6	Departmental Virtual Tour		10th April 2021	Google Meet	4.00pm-5.00pm

explained the importance of diet, positive mindset, Exercise and being calm in very simplified manner. It was nice interaction to have where students understood the importance of positivity. It was explained through the topic **Mind Matters-Let's talk about COVID 19.**

Virtual Departmental Tour was done for the students through the video in which all laboratories, cabins, important infrastructure was shown to the students. At last feedback was taken from students where they interacted with enthusiasm and requested to have this kind of induction program every month. The program was hosted by Prof. S.V.Sonkhaskar and all the faculties from Electrical Engineering department were present for the same.

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management, Amravati

Department of Electrical Engineering

Ist Year

Induction Program Attendance

Roll. No.	Name of Student	Status	Roll. No.	Name of Student	Status
201	KU. GAYATRI PRAMODRAO ALONE	P	231	PRATHMESH DIVAKAR MALVE	P
202	KU. HARSHA SUDHIR KADU	P	232	RITESH HIRALALA GADE	P
203	KU. HARSHADA M. GONDEKAR	P	233	ROHIT GANESH KEDAR	P
204	KU. KALYANI RAJENDRA DESHMUKH	P	234	RUSHIKESH DINESH BAGADE	P
205	KU. MANASVI SUHAS KHURPADE	P	235	SACHIN SURESH RATHOD	P
206	KU. MAYURI GANGADHAR BAGDE	P	236	SHRIKANT RAJENDRARAO FALE	P
207	KU. NAMRATA DADARAO GHUSE	P	237	SHUBHAM DILIP GHULE	P
208	KU. NEHA VITTHAL NIKOLE	P	238	TUSHAR SATISH HOTE	P
209	KU. PRADNYA GANESH ATOTE	P	239	YASH TUKARAM CHAFALE	P
210	KU. PUNAM DNYANESHWAR KHATKE	P	240	Harshad Rathod	P
211	KU. SANJIVANI RAJU JADIYE	P			
212	KU. SANYUKTA PRAKASH PADOLE	P			
213	KU. SEJAL DIPAK PANDE	P			
214	KU. SHRADDHA DILIP GANJARE	P			
215	KU. SNEHA VINOD SADANSHIV	P			
216	KU. TAKSHASHILA O BHAGAT	P			
217	KU. VAISHNAVI DILIP MAKODE	P			
218	ABHIJIT PRAKASH KHILLARE	P			
219	AKSHAY SURESH CHAUDHARI	P			
220	AMIT DADARAO GOSAVI	P			
221	ANGIRA KIRAN MANWAR	P			
222	AYUSH SATISHRAO SAMBHARE	P			
223	CHAITANYA ASHOKRAO KHATDEV	P			
224	CHAITYANA NARENDRA KHAJONE	P			
225	DEVENDRA HARIBHAU ADE	P			
226	MAYUR GAJANAN MANKAR	P			
227	MAYUR NARENDRA SAWARKAR	P			
228	NAVIN DHANRAJ VANJARI	P			
229	PRAJWAL JAGDISH ALONE	P			
230	PRANIT PRAKASHRAO PARDE	P			

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P.R.Pote Patil College of Engineering & Management

Department of Mechanical Engineering
Skill training Program.

30/04/2021

Mechanical Engineering Department ,P.R.Pote (Patil) College of engineering and Management, Amravati has organized CAD software training program from 04/02/2021 to 14/04/2021 .The training was conducted by Prof.R.S.Pokale, Faculty of Mechanical Engineering Department. The total Enrolled students for Mentioned training were 85 from department.

The training was based on industrial application software like AUTOCAD which could be beneficial to students for industrial job opportunities. This training includes practicing of Basic 2D modeling, 3D modeling and, drafting of components.

Prof.R.S.Pokale
Program Co-ordinator

Dr.P.R. Wadnerkar
HoD
Dept. of Mechanical Engineering

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P.R.Pote Patil
College of Engineering & Management,Amravati

Training Program

Organized by –
Department of Mechanical Engineering

Topic –
Basics of AUTO CAD

Resource Person –
Prof.R.S.Pokale
Dept. of Mechanical Engg.
PRPCEM

Date : 4/2/2021 to 14/04/2021
Time : 1 to 2 PM

Join with Google Meet

P.R.Pote (Patil) Edu. & Welf. Trusts Group of Institutions
College of Engineering & Management, Amravati.

Department of Mechanical Engineering

Date : 30/04/2021

Event: Training Program

Name: Basic of AutoCAD

Date: 04/02/2021 to 14/04/2021

Year: Second Year

Sr No.	Name of Students
1.	Mr Abhijit Vinayak Nitawane
2.	Mr Aditya Sudhakarrao Mude
3.	Mr Akash Mahadeorao Dhage
4.	Mr Amit Vijay Mehare
5.	Mr Aniket Ravindrapant Kuralkar
6.	Mr Atharva Manoharrao Kharapkar
7.	Mr Chandrakant Pravin Ikhar
8.	Mr Gaurav C. Khadke
9.	Mr Harshad Babarao Deshmukh
10.	Mr Kunal Gajanan Barbde
11.	Mr Kunal Gajanan Panchabuddhe
12.	Mr Mahesh Prakash khedkar
13.	Mr Parikshit Rajendra Deshmukh
14.	Mr Pranay Devidas Lambat
15.	Mr Rohan Subhash Gawande
16.	Mr Rushikesh Gajanan Ingale
17.	Mr Samrat Dinesh Deshmukh
18.	Mr Sani Shalikram Gayakwad
19.	Mr Saurabh Ramchandra Kalanke
20.	Mr Siddeshwar Kisan Chopde
21.	Mr Smit Dipakrao Kitukle
22.	Mr Tejas Nitin Watane
23.	Dhnyaneshwar Edshikar
24.	Tejas Ingle

25.	Nikhil Gaur
26.	Manoj Chimankar
27.	Mohd. Danish
28.	Janhavi Chaudhari
29.	Abhijeet Adhau
30.	Akash Duryodhan
31.	Prajwal Gedam
32.	Tejas Puri
33.	Abhishek Sanjiv Awatare
34.	Abhishek Shiv Dhondi
35.	Aditya S. Bhute
36.	Ajinkya Pravinrao Marodkar
37.	Akif Khan Nasemullah Khan
38.	Amol Sajjan Chakre
39.	Aniket Vinayakrao Kale
40.	Ankita Sanjayrao Rangole
41.	Ankush Suresh Bhande
42.	Atharv Nitin Agashe
43.	Dharti Shrikrushnarao Malpe
44.	Faizan Altamash Mohd Rafique
45.	Hardik Sunil Raut
46.	Jaydip Pawar
47.	Jitesh Rajendra Kadu
48.	Kiran Digambar Suroshe
49.	Krushnai Dipak Girolkar
50.	Kunal Bharat Nikhade
51.	Kunjal Mohan Jirapure
52.	Mahesh Ashok Kakode
53.	Mehul Gajanan Patekar
54.	Mohd Rayyan Khan Mohd Rehan Khan
55.	Mohd Shuja Khan Shahezad Khan
56.	Piyush Deepchand Nandeshwar
57.	Prajwal Ghanshyam Sarode
58.	Prajwal Shamlal Jaiswal
59.	Prasanna Harshvardhan Deshmukh
60.	Rajat Vijay Nimkar
61.	Ritesh Rajendra Chandure
62.	Rohan D. Thokdive

63.	Sagar Kashinath Parlakar
64.	Samiksha Santoshrao Mangle
65.	Sanjivani Raju Nirpase
66.	Sarvesh Pravin Pachaghare
67.	Shrutika Sarangdhar Patil
68.	Siddhant Nitin Roundalkar
69.	Sumit Ashokrao Deshmukh
70.	Suraj S. Kharpas
71.	Aniket Tukaram Mohakar
72.	Ujwala Vishwasrao Gudadhe
73.	Vaibhav Sudhir Chavhan
74.	Vaishnavi Dnyaneshwarrao Thelkar
75.	Varun Sanjay Dhigwar
76.	Vikas D. Kushwaha
77.	Viraj Nareshrao Khedkar
78.	Yash Diliprao Chaudhari
79.	Yash Rajabhau Ingle
80.	Yogesh Shantaramji Pahare
81.	Yuvraj Metkar
82.	Vrushabh Nandkishor Kale
83.	Sahil Pundlikrao Kadu
84.	Prajwal Vijayrao Nalat
85.	Pallavi Sharadrao Bonde

Prof.R.S.Pokale
Program Co-ordinator

Dr.P.R.Wadnerkar
HoD
Dept. of Mechanical Engineering

H.O.D. (Mech. Dept.)
P.R.P.C.O.E.M. Coll. of Engg. & Management
Amravati.

Training Program on " Basic of Auto Cad"

Date - 04/02/2021 to 14/04/2021
Resource Person - Prof.R.S.Pokale Asst. Prof. P.R.Pote Patil College of Engg & Mgmt.

* Required

1. Full Name of Student *

2. Class of Student *

Mark only one oval.

- ◯ Third Year
- ◯ Second Year

3. Department / Branch *

4. Q.1) What percentage of the information was new to you?

Mark only one oval.

- ◯ A) 100%
- ◯ B) 75%
- ◯ C) 50%
- ◯ D) 25%

5. Q.2) Whether, the contents of this session will be beneficial for you.

Mark only one oval.

- ◯ Completely
- ◯ Moderately
- ◯ Slightly
- ◯ No

6. Q.3) Please rate the speaker's knowledge of the topic:

Mark only one oval.

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

7. Q.4) Please rate the speaker's presentation skills:

Mark only one oval.

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

8. Q.5) Please rate the content of the slides/virtual aids:

Mark only one oval.

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

9. Q.6) How did the session compare to your expectations?

Mark only one oval.

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

10. Q.7) Overall session evaluation:

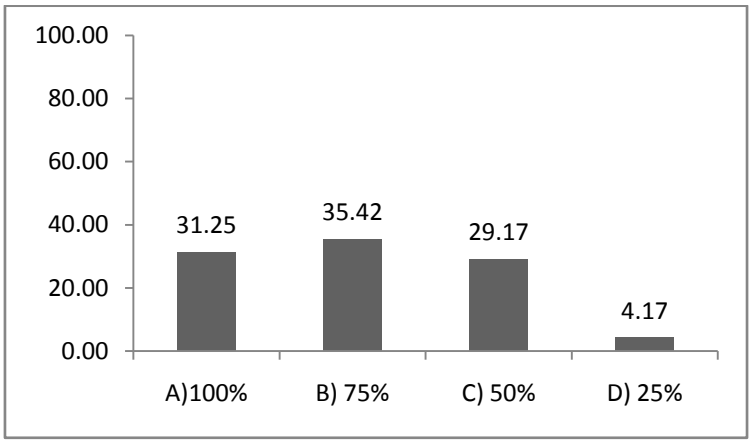
Mark only one oval.

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

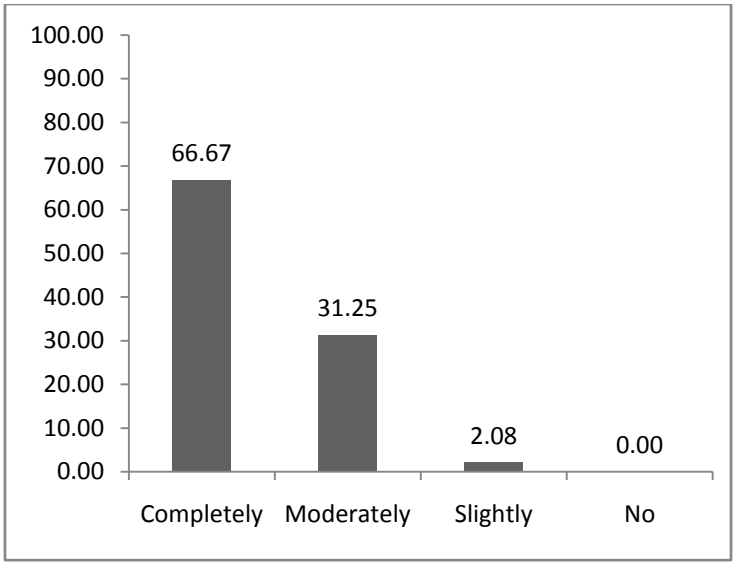
VALUE ADDED PROGRAM FEEDBACK ANALYSIS

Topic: Basic of AutoCAD.
Resource Person: Mr.R.S.Pokale, Asst.Prof. Department of Mechanical Engineering, P.R.P.C.E.M, Amravati
Date: 04/02/2021 to 14/04/2021
Time: 1 to 2 PM
Total Respondents: 48

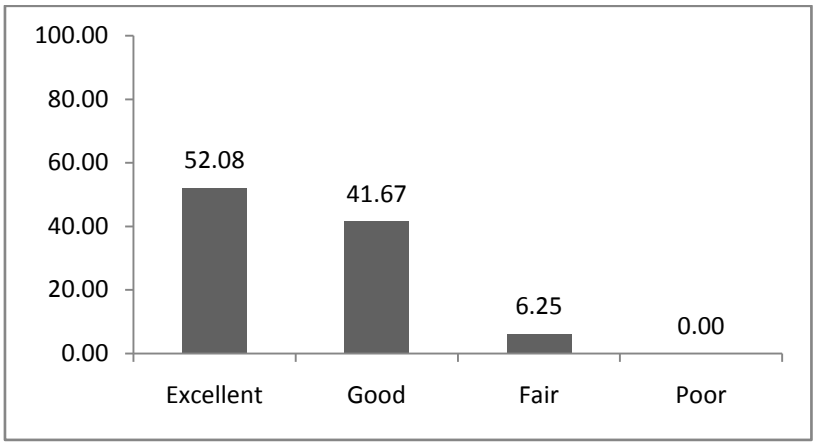
Q.1) What percentage of the information was new to you?



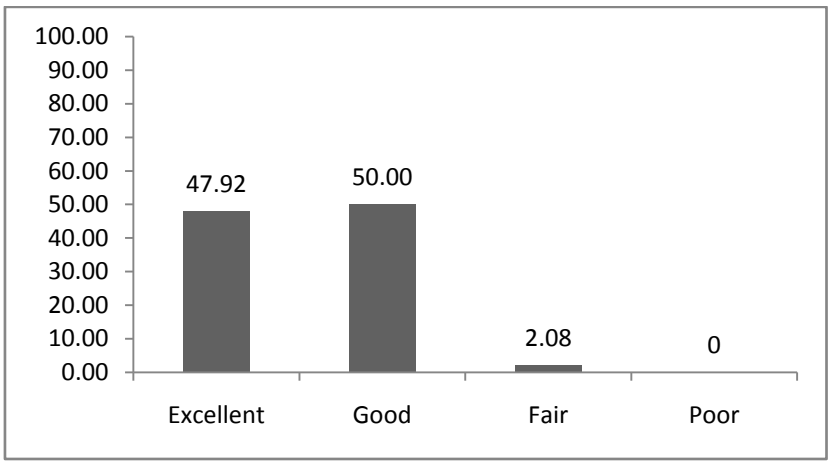
Q.2) whether, the contents of this session will be beneficial for you?



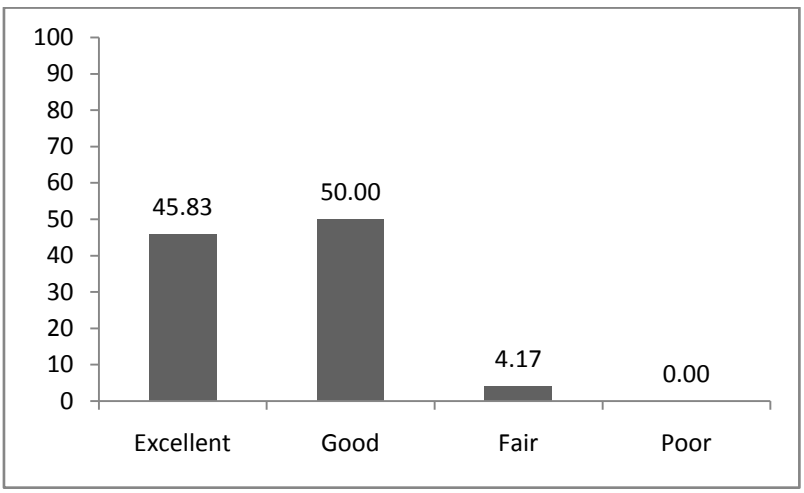
Q.3) Please rate the speaker's knowledge of the topic:



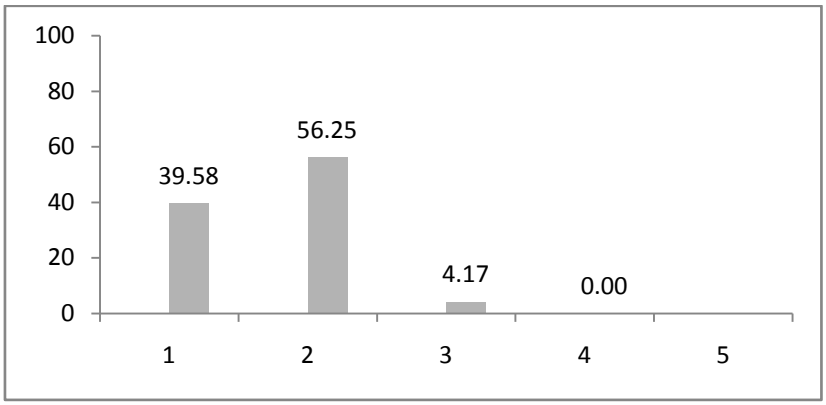
Q.4) Please rate the speaker's presentation skills:



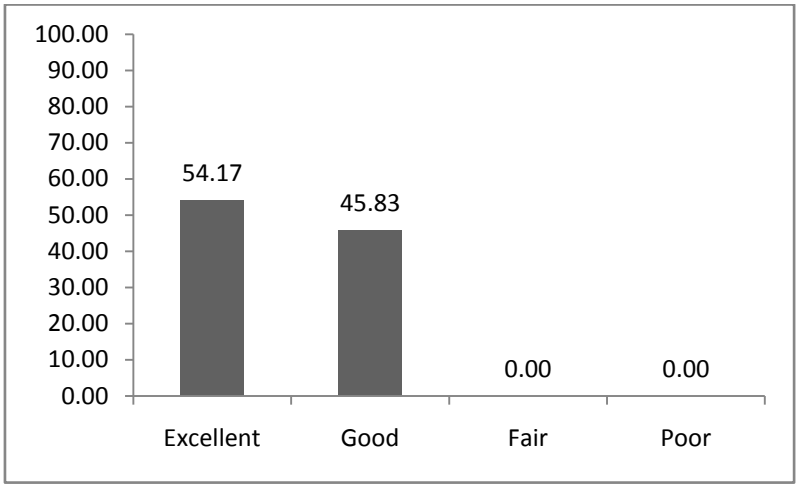
Q.5) Please rate the content of the slides/virtual aids:



Q.6) how did the session compare to your expectations?



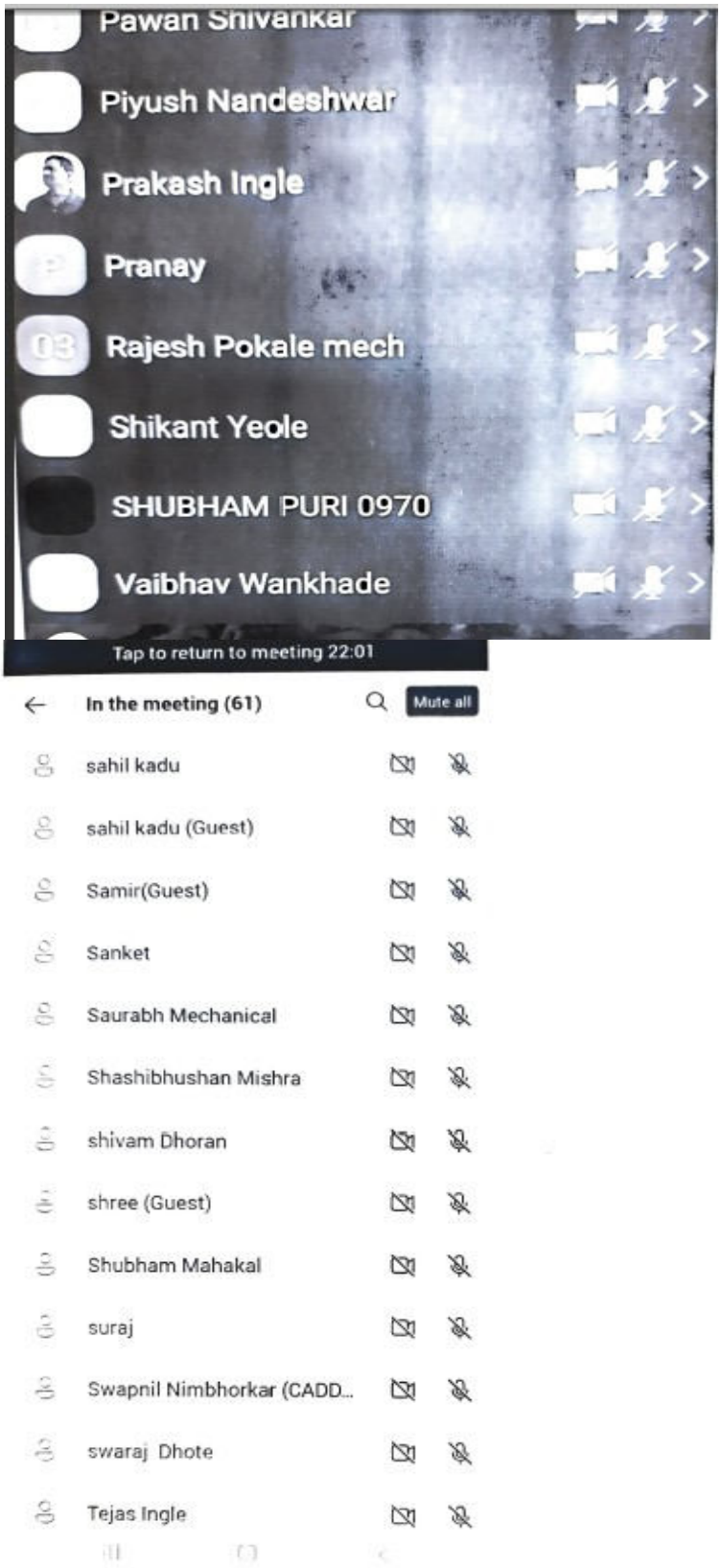
Q.7) Overall session evaluation:



Prof.R.S.Pokale
Program Co-ordinator

Dr.P.R.Wadnerkar
HoD
Dept. of Mechanical Engineering

H.O.D. (Mech. Dept.)
Amravati.


Pawan Shivankar
Piyush Nandeshwar
Prakash Ingle
Pranay
Rajesh Pokale mech
Shikant Yeole
SHUBHAM PURI 0970
Vaibhav Wankhade
Tap to return to meeting 22:01
In the meeting (61)
Mute all
sahil kadu
sahil kadu (Guest)
Samir(Guest)
Sanket
Saurabh Mechanical
Shashibhushan Mishra
shivam Dhoran
shree (Guest)
Shubham Mahakal
suraj
Swapnil Nimbhorkar (CADD...
swaraj Dhote
Tejas Ingle

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.3 Curriculum Enrichment

1.3.1	Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Criteria-1 Curricular Aspects

1.3.1

Contents

27. ENVIRONMENTAL STUDIES

Total Marks : 100

PART-A

SHORT ANSWER PATTERN **25 Marks**

1. The Multidisciplinary nature of environmental studies

. Definition, scope and importance.
. Need for public awareness.

(2 lecture hours)

2. Social Issues and the Environment

. From Unsustainable to Sustainable development
. Urban problems related to energy
. Water conservation, rain water harvesting, watershed management
. Resettlement and rehabilitation of people; its problems and concerns. Case studies.
. Envionmental ethics : Issues and possible solutions.
. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
. Wasteland reclamation.
. Consumerism and waste products.
. Environment Protection Act.
. Air (Prevention and Control of Pollution) Act.
. Water (Prevention and Control of Pollution) Act.
. Wildlife Protection Act.
. Forest Conservation Act.
. Issues involved in enforcement of environmental lesislation.
. Public awareness. (7 lecture hours)

3. Human Population and the Environment

. Population growth, variation among nations.
. Population explosion - Family Welfare Programme.
. Environment and human health.
. Human Rights.
. Value Education.
. HIV / AIDS.
. Women and Child Welfare.
. Role of Information Technology in Environment and human health.
. Case Studies. (6 lecture hours)

******

PART-B

ESSAY TYPE WITH INBUILT CHOICE **50 Marks**

4. Natural resources :

. **Renewable and non-renewable resources :**

. Natural resources and associated problems.

- Forest resources : Use and over exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
- Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer - pesticide problems, water logging, salinity, case studies.
- Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, Case studies.
- Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

. Role of an individual in conservation of natural resources.

. Equitable use of resources for sustainable lifestyles.

(8 lecture hours)

5. Ecosystems

. Concept of an ecosystem.

. Structure and function of an ecosystem.

. Producers, consumers and decomposers.

. Energy flow in the ecosystem.

. Ecological succession.

. Food chains, food webs and ecological pyramids.

. Introduction, types, characteristic features, structure and function of the following ecosystem :-

- Forest ecosystem
- Grassland ecosystem
- Desert ecosystem
- Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lecture hours)

6. Biodiversity and its conservation

. Introduction - Definition : genetic, species and ecosystem diversity.

. Biogeographical classification of India.

. Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values.

. Biodiversity at global, National and local levels.

. India as a mega-diversity nation.

. Hot-spots of biodiversity.

. Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.

. Endangered and endemic species of India.

. Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

(8 lecture hours)

7. Environmental Pollution

. Definition

. Causes, effects and control measures of :-

- Air pollution
- Water pollution
- Soil pollution
- Marine pollution
- Noise pollution
- Thermal pollution
- Nuclear hazards

. Solid Waste Management : Causes, effects and control measures of

. Role of an individual in prevention of pollution.

. Pollution case studies.

. Diaster management : floods, earthquake, cyclone and landslides.

(8 lecture hours)

PART-C

ESSAY ON FIELD WORK **25 Marks**

8. Field work

. Visit to a local area to document environmental assets - river / forest / grass land / hill / mountain

. Visit to a local polluted site - Urban / Rural / Industrial / Agricultural

. Study of common plants, insects, birds.

. Study of simple ecosystems - pond, river, hill slopes, etc.

(5 lecture hours)

(**Notes :** i) Contents of the syllabys mentioned under paras 1 to 8 shall be for teaching for the examination based on Annual Pattern.

ii) Contents of the syllabys mentioned under paras 1 to 4 shall be for teaching to the Semester commencing first, and

iii) Contents of the syllabys mentioned under paras 5 to 8 shall be for teaching to the Semester commencing later.

LIST OF REFERENCES :-

1) Agarwal, K.C., 2001, Environmental Biology, Nidi Publ. Ltd., Bikaner.
2) Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad - 380 013, India, Email : mapin@icenet.net **(R)**
3) Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p.
4) Clark R.S., Marine Pollution, Clanderson Press Oxford **(TB)**
5) Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T., 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p.
6) De A.K., Environmental Chemistry, Wiley Eastern Ltd.
7) Down to Earth, Certre for Science and Environment **(R)**
8) Gleick, H.P. 1993, Water in Crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press. 473p.
9) Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural Histroy Society, Mumbai **(R)**
10) Heywood, V.H. & Watson, R.T. 1995, Global Biodiversity Assessment, Ca mbridge Univ. Press 1140p
11) Jadhav, H & Bhosale, V.M. 1995, Environmental Protection and Laws, Himalaya Pub. House, Delhi. 284 p.
12) Mckinney, M.L. & Schoch, R.M. 1996, Environmental Science Systems & Solutions, Web Enhanced Edition. 639 p.
13) Mhaskar A.K., Matter Hazardous, Techno-Science Publications **(TB)**
14) Miller T.G.. Jr., Environmental Science, Wadsworth Publishing Co. **(TB)**
15) Odum, E.P., 1971, Fundamentals of Ecology, W.B.Saunders Co., U.S.A., 574p.
16) Rao M.N. & Datta A.K.,1987, Waste Water Treatment, Oxford & IBH Publ. Co. Pvt. Ltd. 345 p.
17) Sharma B.K., 2001, Environmental Chemistry, Goel Publ. House, Meerut.
18) Survey of the Environment, The Hindu **(M)**
19) Townsend C., Harper J., and Michael Begon, Essentials of Ecology, Blackwell Science **(TB)**

20) Dr. Deshpande A.P., Dr. Chudiwale A.D., Dr.Joshi P.P. & Dr. Lad A.B. : Environmental Studies, Pimpalapure & Company Pub., Nagpur.
21) डॉ. विठ्ठल घारपुरे : पर्यावरणशास्त्र, पिंपळापुरे ॲन्ड कंपनी पब्लिशर्स, नागपूर.
22) Trivedi R.K., Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II, Enviro Media **(R)**
23) Trivedi R.K. and P.K. Goel, Introduction to Air Pollution, Techno-Science Publications **(TB)**
24) Wagner K.D., 1998, Environmental Management, W.B.Saunders Co., Philadelphia, USA 499p.

(M) Magazine

(R) Reference

(TB) Textbook

25) Environmental Studies : R.Rajgopalan, Oxford Uni. Press, New Delhi, 2005
26) Environmental Chemistry and Pollution by Dr.N.W.Ingole, D.M.Dharmadhikari, Dr.S.J.Patil, Dasganu Prakashan, Nagpur.

******

%SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI
ORDINANCE NO. 42 OF 2005

Examination in Environmental Studies leading to Bachelor Degree, Ordinance, 2005

Whereas it is expedient to frame an Ordinance relating to Examination in Environmental Studies leading to Bachelor Degree level, hereinafter appearing, the Management Council is hereby pleased to make the following Ordinance.

1. This Ordinance may be called "Examination in Environmental Studies leading to Bachelor Degree, Ordinance, 2005."

2. This Ordinance shall come into force from the Academic session 2005-06.

3. In this Ordinance and in other ordinances relating to the examination, unless there is anything repugnant in the subject or context :-

   (i) "Academic session" means a session commencing on such date and ending with such date of the year following as may be appointed by the Management Council.
   (ii) "Admission to an examination" means the issuance of an admission card to a candidate in token of his having complied with all the conditions laid down in the relevant ordinance, by a competant officer of the University.
   (iii) "Applicant" means a person who has submitted an application to the University in the form prescribed for admission to an examination.
   (iv) "Candidate" means a person who has been admitted to an examination by the University.
   (v) "Regular Candidate" means an applicant who has applied for admission to a Univeristy examination through an affiliated college, Department or Institute in which he/she has prosecuting a regular course of study.
   (vi) "Examinee" means a person who present himself/herself for an examination to which he/she has been admitted.
   (vii) "Examination" means an examination prescribed by the University under the relevant Ordinance.
   (viii) "External Candidate" means a candidate who is allowed to take a University examination in accordance with the provision of Original Ordinance No. 151.
   (ix) " Non-Collegiate Candidate" means a candidate who is not a collegiate candidate.

% Amended by Ordinance No. 7 of 2006, and 10 of 2007.

   (x) An "Ex-student" is a person who having once been admitted to an examination of this University, is again required to take the same examination by reason of his failure or absence thereat and shall include a student who may have joined a college, Department or Institute again in the same class.
   (xi) "Bachelor Degree Examination" means a examination leading to Bachelor Degree of the University.
   (xii) "Previous Year" means a year following by final year of Bachelor Degree.

4. Save as otherwise specifically provided, the conditions prescribed for admission to the examination under this Ordinance shall apply to all persons who wish to take the examination to the Degrees of the University mentioned in para 5 below.

5. The conditions prescribed for admission to examination under this Ordinance shall apply to following degrees of the University :-

   1) Bachelor of Arts
   2) Bachelor of Performing Arts
   3) Bachelor of Fine Arts
   4) Bachelor of Mass Communication
   5) Bachelor of Social Work
   6) Bachelor of Commerce
   7) Bachelor of Business Administration
   8) Bachelor of Science
   9) Bachelor of Computer Science
   10) Bachelor of Computer Applications
   11) Bachelor of Pharmacy
   12) Bachelor of Science (Home Science)
   13) Bachelor of Technology (Cosmetics)
   14) Bachelor of Engineering
   15) Bachelor of Engineering (Part Time) (Civil)
   16) Bachelor of Textile
   17) Bachelor of Technology (Chemical Technology)
   18) Bachelor of Technology (Chemical Engg.)
   19) Bachelor of Architecture, and
   20) Bachelor of Laws (Five Year Course)

6 i) Environmental Studies shall be a compulsory subject for a previous year examination of the following Bachelor Degrees of the University,

1) Bachelor of Arts
2) Bachelor of Performing Arts
3) Bachelor of Fine Arts
4) Bachelor of Mass Communication
5) Bachelor of Social Work
6) Bachelor of Commerce
7) Bachelor of Business Administration
8) Bachelor of Science
9) Bachelor of Computer Science
10) Bachelor of Computer Applications
11) Bachelor of Pharmacy
12) Bachelor of Science (Home Science)
13) Bachelor of Technology (Cosmetics)
14) Bachelor of Engineering (Part Time) (Civil)

ii) Environmental Studies shall be a compulsory subject for IIIrd & IVth Semester of the following Bachelor Degrees of the University,

1) Bachelor of Engineering
2) Bachelor of Textile
3) Bachelor of Technology (Chemical Technology)
4) Bachelor of Technology (Chemical Engineering)
5) Bachelor of Architecture, and

iii) Environmental Studies shall be a compulsory subject for Vth & VIth Semester of the Degree of Bachelor of Laws (Five Year Course)

iv) Students admitted to Second Year/Third Year/IVth Semester Vth Semester of various degree examination courses in different faculties n the academic session 2005-06 or thereafter shall have to appear for examination in the subject Environmental studies.

7. The main Examination leading to Environmental Studies shall be held in Summer and Supplementary examination in Winter every year, at such places and on such date as may be appointed by the Board of Examinations.
Explanation :- Examination shall be conducted on the basis of one common question paper for all Bachelor Degree examination courses irrespective of annual or semester pattern.

8. Scope of the subject for annual pattern examination and or semester pattern examination shall be as provided under the syllabus.

9. Common question paper for all courses covered under this Ordinance alongwith answer books shall be supplied by the University to the Colleges, Departments and Institutes for conducting the examination of the subject.

10. Valuation of the answer books relating to this subject shall be done at College/Department/Institution level only. Remuneration for valuation of answer books shall not be paid by the University.
Provided that prescribed evaluation fee for evaluation of each answer Book/s of an external examinee/s appeared from the examination centre shall be paid to each examination centre.

11. It shall be obligatory on the part of the College/Department/Institute to submit candidate wise following information to the University on or before the date as may be prescribed by the University :-

Sr. No.	Grade/Category	Marks secured
1.	"A"	- 60 and above
2.	"B"	- 45 to 59
3.	"C"	- 35 to 44
4.	"D"	- 25 to 34
5.	"Fail"	- 24 and below
6.	"Absent"	

12. For the purposes of teaching, learing and examination, the Committee consisting of three teachers shall be appointed by the Principal/ Head of the Department/Head of the Institution under his/her Chairmanship/ Chairpersonship. While appointing three teachers on the said committee, the Principal shall take care that the teachers to be appointed on the committee, if necessary, shall be from different faculty.

13. i) Duration of theory examination of this subject shall be three hour.
ii) For all Bachelor Degree examinations, common question paper of 100 marks shall be provided by the University.
iii) Distribution of these 100 marks shall be as follows :-
a) Part-A, Short Answer Pattern - 25 Marks
b) Part-B, Essay type with inbuilt choice - 50 Marks
c) Part-C, Essay on Field Work - 25 Marks

14. Medium of instruction shall be English or Marathi or Hindi. Question paper shall be supplied in English and Marathi and Hindi. A candidate shall have option to write answers in English or Marathi or Hindi.

15. Examination for the subject Environmental Studies shall be compulsory for external candidates appearing as a fresh candidate at Winter and/or Summer examination.

16. For teaching of the subject, there shall be atleast two hour per week.
For teaching the subject to the regular candidates, a full time approved teacher of the University and or a person having Postgraduate Degree in any faculty with second class shall be considered elligible.

17. For teaching of the subject, additional fee to be charged to regular candidate shall be as prescribed by the University.

18. Every College/University Teaching Department shall Charge addtional fee of Rs. 100/- to every student of the subject Environmental Studies. Out of this Rs.100/-, the College/University Teaching Department shall have to pay Rs.25/- to the University as an examination fee of each candidate for the subject Environmental Studies.

19. The Grade secured by an examinee in the examination of this subject shall not be considered for providing the facility of A.T.K.T. in next higher class.

20. The provisions of Ordinance No. 18/2001 shall not be applicable for securing a grade or higher grade in the examination of this subject.

21. Result of the Final Year of the respective Degree shall not be declared of an examinee unless he/she secures any one of the grade in the examination of subject.

    Provided an examinee admitted to Five Year LL.B. course desiring not to continue his/her education beyond Sixth Semester of the said course shall have to secure any one of the grade in the examination of the subject otherwise his/her result of Sixth Semester for awarding B.A. degree shall not be declared.

22. Certificates shall be issued, to the successful examinees in the subject Environmental Studies, after the examination.

*****

6FECH Renewable Energy Sources

Objectives: -

1. To explain concept of various forms of renewable energy
2. To outline division aspects and utilization of renewable energy sources for both domestics and industrial applications
3. To analysis the environmental and cost economics of using renewable energy sources compared to fossil fuels.

Course-Outcome: -

1. At the end of the semester the student will have knowledge about various renewable energy sources and be able to choose the appropriate renewable energy as an alternate for conventional power in any application.

SECTION A

UNIT I :

Solar-Energy: Solar radiation its measurements and prediction, solar thermal flat plate collectors, concentrating collectors, Applications - heating, cooling, desalination, power generation, drying, cooking etc, principle of photovoltaic conversion of solar energy, types of solar cells and fabrication. Photovoltaic applications: battery charger, domestic lighting, street lighting, and water pumping, power generation schemes. (7 Hrs.)

UNIT II:

Wind-Energy: Atmospheric circulations, classification, factors influencing wind, wind shear, turbulence, wind speed monitoring, Betz limit, Aerodynamics of wind turbine rotor site selection, wind resource assessment, wind energy conversion devices, classification, characteristics, and applications. Hybrid systems, safety and environmental aspects. (8 Hrs.)

UNIT III:

Bio-Energy: Biomass resources and their classification, chemical constituents and physicochemical characteristics of biomass, Biomass conversion processes, Thermo chemical conversion: direct combustion, gasification, hydrolysis and liquefaction, biochemical conversion: anaerobic digestion, alcohol production from biomass, chemical conversion process: hydrolysis and hydrogenation.

Biogas, generation, types of biogas Plants- applications. (7 Hrs.)

SECTION B

UNIT IV :

Hydrogen and Fuel Cells: Thermodynamics and electrochemical principles, basic design, types, and applications, production methods, Biophotolysis: Hydrogen generation from algae biological pathways, Storage gaseous, cryogenic and metal hydride and transportation. Fuel cell: principle of working, various types, construction and applications. (8 Hrs.)

UNIT V:

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati

Other Types of Energy : Ocean energy resources, principles of ocean thermal energy conversion systems, ocean thermal power plants, principles of ocean wave energy conversion and tidal energy conversion, hydropower, site selection, construction, environmental issues, geothermal energy, types of geothermal energy sites, site selection, and geothermal power plants. (8 Hrs.)

UNIT VI:

Analysis of the cost effectiveness of renewable energy sources, present status, comparison, forecast. (7 Hrs.)

Text Books:

1. Rai G. D., Non-conventional Energy Sources, Khanna Publishers, New Delhi, 2007

2. John Twidell, Tony Wier, 'Renewable Energy Sources', Taylor & Francis Publishers, New York, 2005

Reference Books:

1. Sukhatme, S.P., Solar Energy, Tata McGraw - Hill Publishing Company Limited, 2006 90 91 92 93

2. Khandelwal K.C, Mahdi S.S., Biogas Technology - A Practical Handbook, Tata McGraw Hill, 1986

3. Thomas .b. Johansson, Henry Kelly, Amulya K.N .Reddy, Robert .H. Williams, 'Renewable Energy Sources for Fuels and Electricity', Island Press, Washington DC, 2009

4. Anthony San Pietro, Biochemical and Photosynthetic aspects of Energy Production, Academic Press, 1980

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P R Pote Patil College of Engineering & Management, Amravati
Department of Civil Engineering

Sub: - Non-Conventional Energy System NCES - 6FEME05

Syllabus

UNIT I :
Introduction :-Renewable & Nonrenewable sources.
Solar Radiation : Solar constant, basic earth-sun angles. Spectral distribution of extra-terrestrial radiations & its variation.Solar time, Direction of beam radiation, computation of radiation on inclined surfaces. **(7 Hrs)**

UNIT II:
Radiation Transmission through covers:-Reflection and absorption of radiation, optical properties of cover systems transmittance effects of surface layers on transmittance, transmittance absorptance product.
Solar Energy collections:-Heat transfer for solar energy utilization, flat plate collectors such as liquid & air collector. Introduction to various systems of concentrating collectors. **(7 Hrs)**

UNIT III :
Solar energy Utilization:- Application of solar energy in heating, cooling, pumping, power production, distillation, drying, solar cookers, solar pond, solar furnace.
Solar Energy Storage :- Methods of storage such as sensible, latent heat & thermochemical storage, selection of method of storage, properties of storage materials and different arrangements of storages. (No analytical treatment) **(7 Hrs)**

UNIT IV:
Tidal Power:- types of tidal plants such as single and two basin plants, power developed & operation of tidal power plant. Ocean thermal energy conversion system.Ocean temp.profile, OTE power plant development, controlled flash evaporation, indirect vapour cycle.
Wind Power:- Wind speed data, power in the wind, wind power development, types of wind mills, application for pumping and power generation. (No numerical) **(7 Hrs)**

UNIT V:
Biomass Energy Resources: Mechanism of green plant photosynthesis. efficiency of conversion, solar energy plantation, biogas – Types of biogas plants, factors affecting production rates. Pyrolysis, Gasifiess : Types & classification. Straight vegetable oils as a liquid fuels and their properties.Introduction to bio-diesel as a diesel engine fuel. **(7 Hrs)**

UNIT VI :Direct Energy Conversion:-
Photo voltaic cells : Principle, concept of energy conversion, conversion efficiency, power output and performance, storage.
Fuel Cells: Principles types of fuel cells, conversion efficiency.
Geothermal Energy: Resources, power generation methods like vapour dominated. water dominated, flash steam, binary fluid and total flow concept of power generation. **(7 Hrs)**

Books Recommended:

Text Books:-

1. Solar Energy; S.P. Sukhatme; TMH
2. Non-Conventional Energy Sources; G.D. Rai; Khanna Publications

Reference Books:-

1. Treatise on Solar Energy; H.P. Garg; John Wiley & Sons.
2. Renewable Energy Conversion, Transmission and Storage; Bent Sorensen; Elsevier Publication
3. Renewable Energy; Godfrey Boyle; Oxford University Press, Mumbai
4. Renewable Energy Sources and Emerging Technology; D.P. Kothari, K.C. Singal, RakeshRanjan; PHI

HoD, Mech Engineering

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management, Amravati

Department of Computer Science & Engineering

Year 2020-2021

NAAC Criteria 1

Documents list for Point 1.3 (Curriculum Enrichment)

Sub Point No	Sr. No.	Document	Remarks
1.3.1	1	Syllabus for subject Professional Ethics and Network Security	
1.3.2	2	Syllabus for Project & Seminar Subject	
	3	List of Students Undertaking Projects	
1.3.3	4	Student details undertaking Internship with relevant Certificates	

HOD, CSE

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

FOUR YEAR DEGREE COURSE IN BACHELOR OF ENGINEERING

BRANCH - COMPUTER SCIENCE & ENGINEERING - SEMESTER PATTERN (CREDIT GRADE SYSTEM)

SEMESTER - SEVENTH

Appendix - E

			TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK					THEORY					PRACTICAL			
Sr. No.	Subject Code	Subject	Lecture	Tutorial	P/D	Total HOURS/WEEK	CREDITS	DURATION OF PAPER (Hr.)	MAX. MARKS THEORY PAPER	MAX. MARKS COLLEGE ASSESMENT	TOTAL	MIN. PASSING MARKS	MAX. MARKS EXTERNAL	MAX. MARKS INTERNAL	TOTAL	MIN. PASSING MARKS
THEORY																
01	7KS01	Digital Signal Processing	4	_	_	4	4	3	80	20	100	40	_	_	_	_
02	7KS02	Computer Networks	4	_	_	4	4	3	80	20	100	40	_	_	_	_
03	7KS03	Design & Analysis of Algorithms	4	_	_	4	4	3	80	20	100	40	_	_	_	_
04	7KS04	Object Oriented Analysis & Design	4	_	_	4	4	3	80	20	100	40	_	_	_	_
05	7KS05	Professional Elective I*	4	_	_	4	4	3	80	20	100	40	_	_	_	_
PRACTICALS / DRAWING / DESIGN																
06	7KS06	Digital Signal Processing Lab	_	_	2	2	1	_	_	_	_	_	25	25	50	25
07	7KS07	Design & Analysis of Algorithms Lab	_	_	2	2	1	_	_	_	_	_	25	25	50	25
08	7KS08	Object Oriented Analysis & Design Lab	_	_	2	2	1	_	_	_	_	_	25	25	50	25
09	7KS09	Project & Seminar	_	_	2	2	4	_	_	_	_	_	_	50	50	25
		TOTAL	20	_	8	28	27				500				200	
														TOTAL	700	

Professional Elective I* (i) Computer Graphics (ii) Multimedia Technologies (iii) Web Engineering (iv) Human Computer Interface

Semester :EIGHTH

THEORY																
01	8KS01	Artificial Intelligence	3	_	_	3	3	3	80	20	100	40	_	_	_	_
02	8KS02	Embedded Systems	4	_	_	4	4	3	80	20	100	40	_	_	_	_
03	8KS03	Software Engineering	3	_	_	3	3	3	80	20	100	40	_	_	_	_
04	8KS04	Professional Elective II*	3	_	_	3	3	3	80	20	100	40	_	_	_	_
PRACTICALS / DRAWING / DESIGN																
05	8KS05	Artificial Intelligence -Lab	_	_	2	2	1	_	_	_	_	_	25	25	50	25
06	8KS06	Embedded Systems -Lab	_	_	2	2	1	_	_	_	_	_	25	25	50	25
07	8KS07	Project & Seminar	_	_	6	6	12	_	_	_	_	_	75	75	150	75
		TOTAL	13	_	10	23	27				400				250	
														TOTAL	650	

Professional Elective II* (i)Distributed Computing (ii) Mobile Computing (iii) Soft Computing (iv) Network Security

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Unit VI: Software testing fundamentals; test case design, Whitebox testing. Basis path, control structure-, Blackbox-Testing, & for specialized environments. Strategic approach to S/W testing. Unit testing, integration testing, validation testing, system testing. Debugging. Technical metrics for software.

Textbook:

Pressman Roger. S: "Software Engineering, A Practitioner's Approach", TMH.

Reference Books :

1. Somerville: Software Engineering (Addison-Wesley) (5/e)
2. Davis A: Principles of Software Development (McGraw Hill)
3. Jawadekar W.S.: Software Engineering Principles and Practice, Mc Graw Hill.
4. Jalote Pankaj: An Integrated Approach to Software Engineering, Narosa Publications.

6KS06 / 6KE06 PROFESSIONAL ETHICS

Unit I : Introduction: Computers in a Social Context. Moral and Legal Issues. Computer Ethical Issues. Philosophical Ethics: Descriptive and Normative Claims, Ethical Relativism, Utilitarianism, Deontological Theories, Rights, Virtue Ethics, Individual and Social Policy Ethics. Professional Ethics: Characteristics and system of Professions, Computing as Profession, Professional Relationships, Conflicting Responsibilities, Code of Ethics and Professional Conduct, Collective Responsibility. **08 Hrs**

Unit II : Ethics and The Internet: Three Morally Significant Characteristics, Hacking and Hacker Ethics, New Species of Old Crime, Netiquette, And Policy Approaches. Computers and Privacy issues, Legislative Background, Global Perspective, Proposals for Better Privacy Protection. Property Rights in Computer Software: Definitions, Current Legal Protection, Philosophical basis and analysis of Property, Proprietary Software, and Software Copying. **08 Hrs**

Unit III : Accountability, Computer and Information Technology: Different Senses of Responsibility, Buying and Selling Software, Y2K Problem, Diffusion of Accountability, Internet Issues, ISP Liability, and Virtual Action. Technology and Social change, Embedded Values, Enhanced and Impeded Values, Democratic Values in the Internet, Internet as Democratic Technology, Access and the Digital Divide, Free Expression, Overarching and Future Issues. **08Hrs**

Text Book:

Deborah G. Johnson: "Computer Ethics" Pearson Education (Third Edition).

Reference Books:

1. George Reynolds: "Ethics in Information Technology" Cengage Learning.
2. Hester and Ford: "Computers and Ethics in the Cyberage.
3. Duncan Langford: "Internet Ethics"
4. Richard A. Spinello: "Case Studies in Information Technology Ethics" PHI.

6KS07 Operating Systems Lab.: Minimum Eight experiments/programming assignments must be completed based on the respective syllabus uniformly covering each of the units.

6KS08 Database Systems Lab.: Minimum Eight experiments/programming assignments must be completed based on the respective syllabus uniformly covering each of the units along with one mini project.

6KS09 Computer Lab-II (Hardware Lab): This lab is based on PC organization, troubleshooting & maintenance.

Student should perform practical on the following areas of PC:

1. PC models.
2. Inside the PC.
3. Preventive maintenance.
4. PC troubleshooting.
5. Semiconductor memories
6. Power supplies & power protection
7. Hard Disks: installing, configuring & maintenance
8. SCSI drives
9. Printers & their troubleshooting
10. Modems & serial interfaces, USB's and Devices.
11. Keyboard, Mice, Video adapters & displays
12. Sound boards, Video capture & CD ROMs.
13. Study of PC Ports & Interfacing Cards.

Books :

1. Mark Minasi : Complete PC upgrade & Maintenance Guide (BPB)
2. Scott Muller: Upgrading and Repairing PCs 12/e (Que)

Traditional TCP, Classical TCP improvements, TCP over 2.5/3G Wireless Networks. (08 Hrs)

Unit VI: Support for Mobility: File Systems, World Wide Web, Wireless Application Protocol (version 1.X) Arhitecture, i-mode, SyncML, WAP2.0. (08 Hrs)

TEXT BOOK :

ochen Schiller: "Mobile Communication" Pearson Education, Second Edition.

REFERENCE BOOKS:

1. Mazliza Othman: " Principles of Mobile Computing and Communications", Auerbach.
2. Agrawal and Zeng: "Introduction to Wireless and Mobile Systems" Cengage Learning.
3. Upena Dalal: " Wireless Communication" Oxford University Press.
4. Raj Kamal: "Mobile Computing" Oxford University Press.

8KS04 PROFESSIONAL ELECTIVE - II
(III) SOFT COMPUTING

UNIT-I: Fundamental of Neural Network: Basic concepts of Neural Network, Human Brain, Model of artificial neurons, Neural Network architecture, Characteristics of Neural Network, Learning methods, Taxonomy of Neural Network architecture, Early Neural Network architecture. (08 Hrs)

UNIT II: Architecture of a Backpropagation Network, The Perceptron Model, The solution, Single Layer Artificial Neural Network, Model for Multiayer Perceptron, Back propagation learning, Input Layer, Hidden Layer and Output Layer Computation, Calculation of error, Training of Neural Network, Method of Seepest Descent,Effect of Learning rate, Adding a momentum Term, Backpropogation Algorithm. (08Hrs)

UNIT-III: Fuzzy Set Theory: Fuzzy verses Crisp, Crisp sets, Operations and Properties of Crisp Sets, Partition and Covering, Fuzzy sets, Membership Function, Basic Fuzzy Set Operation, Properties of Fuzzy Sets, Crisp Relations, Cartesian product, other relations, Operations on Relations, Fuzzy Relations, Fuzzy Cartesian Product, Operations on Fuzzy Relations. (08Hrs)

UNIT IV: Fuzzy Systems: Crisp logic, Laws of Propositional logic, Inference in Propositional logic, Predicate logic, Interpretations of Predicate Logic Formula, Inference in Predicate Logic, Fuzzy logic, Fuzzy Quantifiers and Inference, Fuzzy rule based system, Defuzzification methods, applications. (08 Hrs)

UNIT V: Fundamental of Genetic Algorithm: Genetic Algorithms, Basic Concepts, Creation of offspring, Working Principle, Encoding, Binary, Octal, Hexadecimal, Permutation, Value, Tree, Fitness function, Reproduction. (08 Hrs)

UNIT VI: Genetic Modeling: Inheritance Operators, Cross over, Inversion & Deletion, Mutation Operator, Bit wise operator, Bit wise operator used in GA, Generational cycle, Convergence of genetic algorithm, Application, Multilevel Optimization, Real life problem, Differences and similarities between GA and other traditional methods, Advances in GA. (08 Hrs)

TEXT BOOK:

S. Rajesekaran, G. A. Vijayalakshmi Pai: "Neural Network, Fuzzy logic, and Genetic algorithms Synthesis and Applications" PHI.

REFERENCE BOOKS:

1. S. Haykin: " Neural Networks" Pearson Education.
2. Jang,Sun and Mezutani: " Neuro Fuzzy and Soft Computing" .McGraw-Hill
3. J.Yen, R. Langari: " Fuzzy Logic: Intelligence, Control & Information ". Pearson Education.
4. N.P.Pahey: "Artificial Intelligence and Intelligent Systems", Oxford University Press.

8KS04 PROFESSIONAL ELECTIVE - II
(IV) NETWORK SECURITY

Unit I: Introduction: Security Trends, The OSI Security Architecture, Security Attacks, Security Services, Security Mechanisms, A Model for Internetwork Security, Internet Standards and the Internet Society. Symmetric Encryption and Message Confidentiality: Symmetric Encryption Principles, Symmetric Block Encryption Algorithms, Stream Ciphers and RC4, Cipher Block Modes of Operation, Location of Encryption Devices, Key Distribution. (08 Hrs)

Unit II: Public-Key Cryptography and Message Authentication: Approaches to Message Authentication, Secure Hash Functions and HMAC, Public Key Cryptography Principles, Public Key Cryptography Algorithms, Digital Signatures, Key Management. (08 Hrs)

Unit III: Authentication Applications: Kerberos, X.509 Authentication Service, Public-Key Infrastructure, Electronic Mail Security: Pretty Good Privacy (PGP), S/MIME, (08 hrs)

8KS04 PROFESSIONAL ELECTIVE - II (IV)
NETWORK SECURITY

Unit I:

Introduction: Security Trends, The OSI Security Architecture, Security Attacks, Security Services, Security Mechanisms, A Model for Internetwork Security, Internet Standards and the Internet Society. Symmetric Encryption and Message Confidentiality: Symmetric Encryption Principles, Symmetric Block Encryption Algorithms, Stream Ciphers and RC4, Cipher Block Modes of Operation, Location of Encryption Devices, Key Distribution. (08 Hrs)

UnitII:

Public-Key Cryptography and Message Authentication: Approaches to Message Authentication, Secure Hash Functions and HMAC, Public Key Cryptography Principles, Public Key Cryptography Algorithms, Digital Signatures, Key Management. (08 Hrs)

UnitIII:

Authentication Applications: Kerberos, X.509 Authentication Service, Public-Key Infrastructure, Electronic Mail Security: Pretty Good Privacy (PGP), S/MIME, (08 hrs)

UnitIV:

IP Security: IP Security Overview, IP Security Architecture, Authentication Header, Encapsulating Security Payload, Combining Security Associations, Key Management, Web Security: Web Security Considerations, Secure Socket Layer (SSL) and Transport Layer Security (TLS), Secure Electronic Transaction (SET). (08 Hrs)

Unit V:

Network Management Security: Basic Concepts of SNMP, SNMPv1 Community Facility, SNMPv3, Intruders: Intruders, Intrusion Detection, Password Management. (08 Hrs)

Unit VI:

Malicious Software: Viruses and Related Threats, Virus Countermeasures, Distributed Denial of Service Attacks, Firewalls: Firewall Design Principles, Trusted Systems, Common Criteria for Information Technology Security Evaluation. (08 Hrs)

TEXT BOOK: William Stallings: "Network Security Essentials Applications and Standards" Pearson Education, Third Edition.

REFERENCE BOOKS:

1. Atul Kahate: "Cryptography and Network Security" Mc Graw Hill.
2. Forouzan and Mukhopahyay: ""Cryptography and Network Security" Mc Graw Hill.
3. Matt Bishop: " Computer Security: Art & Science" Pearson Education.
4. Brijendra Singh: " Network Security & Management" PHI.

Unit IV: IP Security: IP Security Overview, IP Security Architecture, Authentication Header, Encapsulating Security Payload, Combining Security Associations, Key Management, Web Security: Web Security Considerations, Secure Socket Layer (SSL) and Transport Layer Security (TLS), Secure Electronic Transaction (SET). (08 Hrs)

Unit V: Network Management Security: Basic Concepts of SNMP, SNMPv1 Community Facility, SNMPv3, Intruders: Intruders, Intrusion Detection, Password Management. (08 Hrs)

Unit VI: Malicious Software: Viruses and Related Threats, Virus Countermeasures, Distributed Denial of Service Attacks, Firewalls: Firewall Design Principles, Trusted Systems, Common Criteria for Information Technology Security Evaluation. (08 Hrs)

TEXT BOOK:

William Stallings: "Network Security Essentials Applications and Standards" Pearson Education, Third Edition.

REFERENCE BOOKS:

1. Atul Kahate: "Cryptography and Network Security" Mc Graw Hill.
2. Forouzan and Mukhopahyay: ""Cryptography and Network Security" Mc Graw Hill.
3. Matt Bishop: " Computer Security: Art & Science" Pearson Education.
4. Brijendra Singh: " Network Security & Management" PHI.

8KS05 ARTIFICIAL INTELLIGENCE - LAB.

Minimum Eight experiments/programming assignments must be completed based on the respective syllabus uniformly covering each of the units.

8KS06 EMBEDDED SYSTEMS - LAB.

Minimum Eight experiments/programming assignments must be completed based on the respective syllabus uniformly covering each of the units.

8KS07 PROJECT & SEMINAR

The project shall be internally evaluated (for 75 Internal Marks) in three phases based on the progress of the project work. Each phase shall be internally evaluated for 25 marks as follows:

Phase I: - Problem Definition and Design

Phase II: - Problem Implementation and Testing

Phase III: - Project Demonstration & Report submission.

The external evaluation of the project shall be based on demonstration of the project and viva-voce

*****

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

SYLLABUS PRESCRIBED FOR BACHELOR OF ENGINEERING COMPUTER ENGINEERING SEMESTER PATTERN (C. G. S.)

SEVENTH SEMESTER

7KE01 SIGNALS AND SYSTEMS

Unit I : Continuous time and discrete time signals, transformation of the independent variable, exponential and sinusoidal signals, unit impulse and unit step functions, operations on signals like folding, time-shifting, amplitude scaling and time-scaling, mixing of signals and modulation. (08Hrs)

Unit-II: Continuous time and discrete time systems, basic system properties, discrete time LTI systems, Continuous time LTI systems, Properties of linear time invariant systems, Causal LTI systems described by differential and difference equations, Singularity functions. (08 Hrs)

Unit III: Fourier Series representation of periodic signals: Response of LTI systems to complex exponentials, Fourier representation of continuous time periodic signals, convergence of the Fourier series, Properties of continuous time Fourier series, Fourier series representation of discrete –time periodic signals, properties of discrete time Fourier series, Fourier series and LTI systems, filtering. (08 Hrs)

Unit IV: Continuous –Time Fourier Transform: Development of the Fourier transform representation of an aperiodic signal, the Fourier transform for periodic signals, properties of the continuous time Fourier transform, the convolution property, multiplication property, Linear constant coefficient differential equations. (08 Hrs)

Unit V: Sampling: Representation of continuous time signals by its samples, reconstruction of a signal from its samples, aliasing, discrete time processing of continuous time signals, sampling of discrete time signals. (08 Hrs)

Unit VI : Z- Transform: Z- transform, the region of convergence for the z-transform, Inverse z- transform, properties of Z transform, analysis and characterization of LTI systems using z transforms, System function algebra and block diagram representations, the unilateral z –transform. (08 Hrs)

TEXT-BOOK :

Oppenheim, Willsky, Nawab 'Signals and Systems', Pearson Education.

SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE

Official Publication of Sant Gadge Baba Amravati University

PART- TWO

(Extra-Ordinary)

Tuesday, the 22th September, 2020

NOTIFICATION

No. - 61/2020 Date : 22.9.2020

Subject :- Implementation of new syllabi of Semester III to VI of Master in Computer Application (Three Year Degree Course.... Semester Pattern) as per Choice Based Credit System in the Faculty of Science & Technology from the session 2020-2021 and onwards in phase wise manner ...

It is notified for general information of all concerned that the authorities of the University have accepted to implement the new syllabi as per AICTE Guidelines of Master in Computer Application (Three Year Degree Course... Semester Pattern ..Choice Based Credit System) Course of Semester III & IV from the academic session 2020-2021 and Semester V & VI from the academic session 2021-2022 & onwards in phase wise manner as per '**Appendix – A' .**

Sd/-
(Dr.T.R.Deshmukh)
Registrar
Sant Gadge Baba Amravati University

Appendix – A

SYLLABUS OF MCA SEM III TO VI [C.B.C.S.]

SEMESTER III

Course Code **MCA19201**

Course Name **JAVA PROGRAMMING**

Credits **4**

Course Outcomes

1. Remember and know the use an integrated development environment to write, compile, run, and test simple Java programs and get knowledge of the structure and model of the Java programming language.
2. Understand Java as an Object oriented language and write programs that solve real-world problems.
3. Understand exception handling and multithreading in Java and apply the concepts to real problems
4. Understand Streams in Java and apply them to File handling, understand Generics
5. Understand Collection Frameworks and apply it for problem solving, design simple GUI based applications using Swing
6. Understand Event handling and analyze and apply the knowledge to develop small GUI based applications.

Units	Contents	Total Hrs
I	**Java Basics**: Program Components, Compilation cycle. Data types and Variables, Operators: Arithmetic, relational, Assignment, Shift operators. Control structures: if, nested if, switch, while,do-while, for loop, Enhanced for loops.	9
II	**Concepts of OOP**: Introduction to classes, class fundamentals, declaring objects, methods, constructor, **this** keyword, access control, Inheritance, Polymorphism, Abstract classes and Interfaces, Packages String and String Buffer classes, Math class. Arrays: Basics, One - & Multi-dimensional, Array of Objects, Passing array to methods.	10
III	**Exception handling:** Exception types, Built-in Exceptions, checked and unchecked Exceptions, using try and catch, throw, throws, finally clauses, multiple catch clauses, **Multithreaded programming:** Java thread model, creating a thread, creating multiple	9

Course Code - MCA19213

Course Name - Elective IV :(ii) CYBER SECURITY AND DIGITAL FORENSIC

Total Credits 4

Course Outcomes

1. Understand the concepts and foundations of Cyber Security
2. Identify security risks
3. Ability to take preventive steps
4. Investigate Cyber Crime and analysis of evidences
5. Acquire knowledge of Digital Forensics.

Unit – 1

Cyber security concepts, Cyber security Strategy, Current Laws Involving Cyber security, International Comprehensive Cyber security Strategy, Cyber security Policy and StrategyEmerging Challenges, Cyber security, Need of Cyber security Malwares: Viruses, Trojans, and Attacks, Development of Computer Viruses, Malicious Attacks

Unit -2

Threat Landscape, Attack Classification, Threat Attacks, Botnets and Cyber Crime Applications, Different types of crimes, Deep Web , Vulnerabilities, Risk Assessment, and Risk Management, Random Stochastic Models ,issues of Time and Sequence, Attack Graphs, Cyber security vulnerabilities, Constraint and Simulations , Optimization and Risk.

Unit -3

Cyber Threat Spectrum—Cyberspace Attacks and Weapons, Cyber Threat Capability and Cyber Tools, Cyber Digital Arsenal , Rationale of Cyberspace Infrastructure Attacks Framework forImproving Critical Infrastructure Cyber security.

Unit – 4

Basics of Critical Infrastructure Protection ,Design and Utility of Infrastructures, Evolution ofInfrastructures, Impact of Infrastructures on Society ,Random Nature of Faults, Failures, and Engineering Resilience, Fault Intolerance and Fault Tolerance, Fail-Safe.

Unit – 5

Management Methods and Standards, Economic Impact on Regulation and Duties to Protect,Legal Requirements and Regulations Critical Infrastructure Protection Strategies and Operations,Physical Security ,Personnel Security, Operational Security Information Warfare Theory and Application Cost of Cyber security Contemporary Cost of Cyber Crime, Cyber security InsuranceNew Cyber security Models, Future Generations for Cyber security, Transformational Challenges

Unit – 6

Digital Forensics: Introduction of digital forensics, Need for digital forensics, Forensic process,Investigation, Digital evidence collection, Application, limitations, Legal considerations, Digitalevidence, investigation tools.

Reference Books :

1) Cyber Security - Edited By Thomas A Johnson CRC Press.

2) CYBER SECURITY By Dr. Krishan Kumar Goyal, Prof Amit Garg.

3) The NICE Cyber Security Framework: Cyber Security Intelligence and Analytics by Izzat Alsmadi

4) Computer Forensics and Digital Investigation with EnCase Forensic v7 By Suzanne Widup

5) Digital Forensics for Network, Internet and Cloud computing By Cunt P Garrison

Head of the Department

SEMESTER VI

Course code MCA19310

Course Name INDUSTRY PROJECT AND INTERNSHIP/START-UP

Credits 18

Guidelines :

1. Students may opt either Industrial Project or Internship or Start-up.
2. Industrial Project: It is a software development project assigned by any registered industry/organization to the student. Student may complete the project at industry/organization or from home. Student shall submit the completion/implementation certificate issued by the Industry/organization. Students should take prior approval from the institute in this regard.
3. Internship: In the internship, students shall apply direct/through institute to the Industry/Organization for internship or take use of 'Intershala', an initiative of AICTE. The internship is placement of students in the industry/organization for which they are entitled to receive stipend. Students shall submit the appointment letter at the start of the internship and completion certificate at the end of the session well before the final examination.
4. Start-up: Students may undertake startup activity which is recognized by the Institute. Institute shall incubate the start-up using the system available at institute level and assign a mentor/guide to the student. The necessary support may be extended to the students for this activity. Students shall submit their proposal well in advance to the institute and Institute should grant its approval through available mechanism at Institute level. The registration of start-up and business proposal shall be the essential documents for this activity. Activity shall be evaluated on the basis of its profit ratio.
5. In all the three above activities, students need to submit complete Project Report to the Institute well before the final examination.

Course code MCA19309

Course Name Seminar / Presentation

Credits 06

Guidelines :

1. Institute shall assign mentor/guide to each student.
2. Student shall submit synopsis approved by the mentor/guide.
3. Institute shall approve the seminar topic.
4. Students shall prepare seminar report and presentation with the help of guide and submit seminar report and presentation approved by the guide well in advance to conduct final presentation/examination.
5. Students may take seminar topic based on new technology, case study, success story of start=up he/she has undertaken in the 'Industrial Project/Internship/Start-up activity.

****

P. R. PotePatil College of Engineering &Management, Amravati

Department of Master of Business Administration

Syllabus

MBA/ 106 Business Ethics

Objective:

To acquaint the students with ethical values and practices with emphasis on Indian Values and Culture

Unit I : Indian Management – Principles, Models & Theory of Karma, Theory and Practices of Holistic Management and its relevance

Unit II : Ethics – Meaning, Objectives and Sources of Ethics, Types of Business Ethics, Factors influencing Business Ethics, Ethics V/s Morals and Values

Unit III : Managing Ethics – Theories of Ethics, Ethical Dilemma, Codes of Ethics, Normative Ethics in Management, Need and Values of Ethics in Global Change Behavioral Aspects of Ethics and Values

Unit IV : Indian Values in Management – Secular and Spiritual Values, Science and Human Values, Lessons from Ancient Indian Educational System

Unit V : Stress Management – Stress eustress, distress, Indian Perspective of Stress Management, Reasons for stress at workplace, Coping with a stress Suggested

Readings:

1. Murthy, C.S.V., Business Ethics – Text and Cases, Himalaya Publishing House Pvt. Ltd., 2nd Edition.

2. Wills, Joseph N., Business Ethics – A Stakeholder and Issues Management Approach, South Western Cengage Learning, 2003 Edition

3. Chakraborty, S.K.: Foundations of Managerial Work-Contributions from Indian Thought, Himalaya Publishing House Delhi 1998.

4. Kumar, S and N.K. Uberoi: Managing Secularism in the New Millennium Excel Books 2000

5. Gandhi, M.K. The story of My Experiment with Truth, Navjivan Publishing House, Ahmedabad, 1972.

6. Sharma Suhas, " Eastern Door Western Windows" , New Age Publications

Head of the Department

3CE03 – Building Construction & Engineering Geology

Learning Objectives of Subject:

1. To understand various types and components of civil structure.
2. To learn about the type of infilling material, its features and construction methodology.
3. To understand various levels in building – floor, sill, lintel, roof levels and their need.
4. To understand the need and type of vertical and horizontal circulation.
5. To make aware of knowledge and importance of rock, soil and its impact for site selection.
6. To help one to understand the reason for Earthquake and its impact on soil / rock properties.

Course outcomes:

At the end of the subject the students will be able -

1. To understand Load bearing and Frame structure.
2. To recognize various types of construction material and its suitability
3. To recognize the various levels in building and its need.
4. To know types of staircase, doors, windows and other related fixtures.
5. To recognize types of rock and minerals and its construction properties.
6. To know reason for earthquake and seismic waves.

SECTION - A

Unit I: Introduction: Definition, types of buildings as per national building code, components of buildings and their functions, Types of structure – load bearing & framed structures. Foundation: Definition and necessity, loads of foundation, Bearing Capacity soil, field methods of improving bearing capacity. Types of foundation – shallow foundation and Types of Shallow foundation.Causes of failure of foundations and precautions to be taken.

Unit II: Masonry: Classification of bricks, manufacturing of bricks, tests on bricks, properties of burnt bricks, fly ash bricks, ALC Blocks. Brick masonry construction – Technical terms, general principles, commonly used types of bonds such as stretcher, header, English bond and Flemish bond, their suitability. Formwork: Different types, their relative merits, demerits, period for removal of formwork for different members. Earthquake resistant bands in masonry-Types, location and application.

Unit III: Floors: Types of Floors – Basement floor, ground floor and upper floors, Floorfinishes – Types of flooring material, different types of floor finishes, suitability, method of construction, criteria for selection. Roofs – Flat, pitched roof, steel roof trusses – types and suitability, types of roof covering. Arches, lintels – Types and their suitability, details of R.C.C. lintels.; chajja, precast lintels arches.

SECTION - B

Unit IV: Doors: Purpose, criteria for location, size of door, door frames.; its types, methods of fixing, Types of door shutters and their suitability, Windows – Purpose, criteria for location, no., sizes; shapes of Windows, types of windows; their suitability. Ventilators – Types and their suitability. Fixtures & fastening for doors and windows. Stairs – Function, technical terms, criteria for location, types of staircases, their suitability, principle of stair layout design.

Unit V: Plastering - Necessity, types, processes of different types of plastering, defects inplastered work. Scaffolding – Purpose, types and suitability. Special Aspects of Construction – Damp proofing – causes of dampness, its effects, various methods of damp proofing.Fire proof construction –Fire protection requirements for a multistoried building. Sound proof Construction – Sound absorbents and their characteristic. Expansion & construction joints in building.

Unit VI: Introduction - Different branches of Geology and importance of Geology in CivilEngineering.Folds, faults, joints in Geology. Geological studies related to site selection for dams and reservoirs. Petrology - rock cycle, rock weathering and soil formation, study of common rock types. Earthquake Engineering - earthquake waves, causes and effects, magnitudeand intensity, earthquake zones of India.

Books Recommended:

1. Mackay W.B.: Building Construction, Vol. I, II, III, Longmans.

2. Sushil Kumar: Building Construction, Standard Publishers Distributors.

3. Singh Parbin: General & Engineering Geology.

4. Mukherjee: A Text Book of Geology.

5. TuyrellG.W.: The Principle of Petrology.

6. WadiaD.N. : Geology of India.

7. Sane L.S.: Construction Engg. ManakTalas, Mumbai.

8. National Building Code of India, 2016.

9. Punmia B.C.: Building Construction.

10. A Manual of Earthquake Resistant, Non-Engineered Construction Indian Society of Earthquake Tech.

SYLLABUS PRESCRIBED FO
BACHELOR OF ENGINEERING
CIVIL ENGINEERING EXAMS.
SEMESTER PATTERN (CREDIT GRADE SYSTEM)

5CE01: REINFORCED CEMENT CONCRETE – II

SECTION – A

Unit I : 1. Design of circular tanks with rigid and flexible base resting on firm ground by working stress method.
2. Design of rectangular water tanks resting on firm ground by using IS code method (working stress method).

LIMIT STATE METHOD:

Unit-II : 1) Introduction to limit state method, basic concept of singly, doubly reinforced and flanged beams, shear and comparison with working stress method.
2) Analysis and design of one way single span and continuous slabs.

Unit-III 1) Analysis and design of two way solid slabs.
2) Staircases, Design of Dog legged type staircase only.

SECTION-B

Unit-IV: Analysis and complete design of beams, rectangular and flanged sections for bending moment and shear.

Unit-V: 1) Analysis and design of columns for axial load, uniaxial and biaxial bending. (Problem on uniaxial bending only)
2) Design of Isolated footings: Square and rectangular footings subjected to axial load only, Design problem on footing with uniform & non-uniform depth.

Unit-VI: 1) Design of grid slab by I.S. code method.
2) Detailing for earthquake resistant construction. Introduction, Cyclic behavior of concrete and reinforcement, significance of Ductility, Ductility of detailing for beams, Columns, joints & shear walls.

Note: Students should use the latest I.S. codes.

BOOKS RECOMMENDED:

1. Jain A.K.: Plain & Reinforced Concrete, Vol. I & II
2. Sinha S.K. & Roy S.K.: Fundamentals of RCC.
3. Pillai & Menon: RCC Design.
4. Dr.Shah V.L. & Karve S.R.: Limit State Design.

E02: FLUID MECHANICS-II

SECTION – A

Unit-I : Turbulent flow through pipes: Karman-Prandtl's equation (No Proof), Nikuradse's experiment, Velocity distribution laws & universal resistance laws, Hydraulically smooth & rough pipes.

Unit -II: Uniform flow, Open channel flow, Types of flow, , geometric elements of rectangular & trapezoidal sections, Chezy's & Mannings equations, most efficient rectangular & trapezoidal section, Energy & momentum principles, Normal & critical depth, specific energy diagram, discharge diagram. Analysis of surface profile by Ven-Te-Chow method.

Unit-III: Gradually varied flow, Dynamic equation of G.V.F. with proof, Analysis of Surface profiles, single step method. Rapidly varied flow; Hydraulic jump in horizontal rectangular channel, specific force diagram, elements of jump, relation between conjugate depth.

SECTION - B

Unit-IV: Dimensional Analysis ; Buckingham's Pie theorem, it's application, similitude, Dimensionless numbers, Re, Fr, We, Predominant forces & their ratio, Model Analysis - Geometrically similar models, Reynolds law, Froudes law, Model study of spillways.

Unit V : Impact of jet on stationary & moving plates, symmetrical, asymmetrical curved vanes; Moment of momentum equation (statement only), velocity diagrams. Elements of Hydroelectric Plant, Hydraulic turbines; classification of turbines, Description of Pelton wheel & Francis turbine, calculation of work done, power & efficiency, specific speed.

UnitVI: Classification of pumps ; centrifugal pumps, main parts & working, velocity diagrams, work done, efficiency, priming of pumps, brief introduction of reciprocating pump, Jet pump, Submersible pump, Hydraulic Ram (No numerical).

BOOKS RECOMMENDED:

1) Modi P.N. & Seth S.M. : Hydraulics & Fluid Mechanics, SI Edition, Standard Book House, New Delhi-6
2) Ranga Raju : Open Channel Flow.
3) Dr. Jain A.K. : Fluid Mechanics.
4) Subramanya K. : Flow in Open Channel.
5) Chow V.T. : Open Channel Hydraulics.
6) Garde & Mirajgaonkar : Fluid Mechanics.

5CE03 : BUILDING PLANNING AN CAD

SECTION – A

Unit- I : Introduction: Importance of building drawing for Civil Engineering in construction & estimation, Method of drawing – Selection of scales for various drawings, types of line, methods of dimensioning in architectural drawing.
Abbreviations & graphical symbols used in Civil Engineering Drawing as per IS : 962. Combined first angle & third angle method of projection. Layout of sheet for civil engineering drawing, Requirements of drawing as per plan sanctioning authorities.

Unit-II : Concept of line plan & working drawings of the building. Developing working drawings of the building from the given line plan Details to be incorporated in the working drawing. Necessity and use of working drawing. Concept of site plan, block plan and layout plan. Importance and details to be incorporated. Concept of foundation plan, importance and use. Developing working drawing and foundation plan for load bearing and framed structures. Plumbing & electric plan.

SECTION - B

Unit-III: Planning of residential building. Introduction, general principles of planning viz. aspect, prospect, roominess, privacy, grouping, circulation, ventilation, furniture requirement. Climate and design consideration. Orientation of buildings, requirement of the owner, alternatives of building types viz. individual bungalows, semidetached houses, row houses, apartments. Provision of mezzanine floor, balconies and porches in the building. Common utilities such as parking, security, water supply, sanitation, etc. for apartments. Criteria for earthquake resistant planning of building.

Unit-IV: Building rules and by laws, for residential buildings, conversion of land to non-agricultural lands, layout for a housing project. Types of public building and their requirements, planning of public building. Preparing line plans of different public buildings such as schools, commercial market, primary health center, workshop, college building, post-office. Free-hand sketching : Importance in Civil engineering. Free hand sketching of components of buildings and elevation features of building such as balconies, chajjas, etc. Perspective drawing, Staircase planning & drawing.

UNIT-V: (C for laboratory work)

AUTOCAD: Understanding basic concepts such as Absolute, relative & world Co-ordinates, Drawing units, drawing limits, extend, layers, line types, object snapping, filters.
Drawing entities in AutoCAD/Felix CAD, various drawing commands, use of object snaps & filters, Editing the drawing different editing commands, Dimensioning commands, Text commands, Hatching commands viewing the drawing different views, view ports, zooming in & out, panning, saving & printing in different scales.

IMPORTANT NOTE:-

1) Theory questions only on unit first four units.
2) No theory questions on unit V

BOOKS RECOMMENDED:

1) Shah, Kale & Patki, Building Planning & Drawing, Tata McGraw-Hill plubication
2) Dr. Kumar Swamy & Rao Swamy, Charotar publications
3) Chery R ,Auto cad Pocket reference, BPB Publication.

5CE04 : SURVEYING-II

SECTION- A

Unit-I: Tacheometry: Stadia methods, fixed hair and movable hair and tangential method, formulae for distance and reduce level determination. Theory of analytic lens, Beaman's stadia arc, Auto reduction tacheometer such as Jeffcot Hammer fennel.

Unit-II :
1. Curves : Classification, degree of curve, elements of circular and compound curves, theory and methods of setting out simple curves, Instrumental method of setting out compound curves.
2. Transition curves. : Ideal transition curves, characteristics methods of determination of length, Elements of different types and methods of setting out.

Unit-III 1. Triangulation : principles, classification of triangulation system, triangulation figures, their choice of station, phase of signals, towers, satellite station, reduction to center, field work, Reconnaissance, Inter-visibility, angular measurements.
2. Basenet, extension of Basenet, adjustment of field observation, errors in observation, method of least square, weighted observations, figure adjustment (Triangle only).

SECTION B

Unit-IV: 1. Hydrographic surveying: necessity, controls, shore line surveys, gauges, sounding equipments and procedure of taking soundings, methods of location of sounding, three point problem in hydrographic surveying, analytical and graphical methods. Station pointer.

2. Underground Surveying: surface alignment, correlation of surface and underground surveys; Weisbach triangle, transferring levels underground.

Unit-V: 1. Elements of photogrammetry: Basic definitions, terrestrial and aerial photography, scale of vertical photograph, Relief and relief displacements, heights from parallel measurements, flight planning, photographs required.

2. Remote sensing : Introduction, definitions, remote sensing systems, advantages over conventional system, energy interaction in the atmosphere, Indian remote sensing satellite series and their characteristics.

Unit-VI: 1. Field Astronomy : Elements of spherical trigonometry, Napier's rules of circular parts, celestial sphere, ecliptic, circumpolar stars, astronomical terms, Astronomical triangle, co-ordinate systems.

2. GIS & GPS : Components of geographical information system (GIS), advantages, function of GIS, advantages and disadvantages, global positioning system. (GPS), introduction, definitions, GPS receivers, antenna, advantages of GPS.

BOOKS RECOMMENDED :

1. D.Clark. : Plane and Geodetic Surveying Vol II
2. T.P.Kanetkar & S.V.Kulkarni : Surveying and Levelling Part II
3. B.C.Punmia : Surveying Vol. II and III
4. Prof.Agor : Surveying
5. Prof. Shahane : Advanced Surveying.

5FECE05: FREE ELECTIVE-I
(i) INTRODUCTION TO EARTHQUAKE ENGINEERING

SECTION A

Unit-I: Interior of earth, Engineering geology of earthquakes, plate tectonics, Seismicity of the world, tectonics features of India, Faults, Propagation of earthquake waves .

Unit-II: Quantification of earthquake (magnitude, energy, intensity of earthquake), Measurements of earthquake (accelerograph,

accelerogram recording), Determination of magnitude, Epicenter distance, Ground motion and their characteristics, Factors affecting ground motions.

Unit-III: Guidelines for achieving efficient seismic resistant planning, selection of sites, importance of architectural features in earthquake resistant buildings

SECTION B

Unit-IV: Projections & suspended parts, special construction features like separation of adjoining structure, crumble section, stair case etc, twisting of building, seismic effects on structures, inertia forces, horizontal & vertical shaking.

Unit-V: Behavior of masonry structure during earthquake, bands & reinforcement in masonry building opening in walls, importance of flexible structures,

Unit-VI: Behavior of R.C. building in past earthquakes. Concept of earthquake Resistant design, Introduction to IS: 1893

Reference Books:

1 Duggal S. K., Earthquake Resistant Design of Structures, Oxford University Press 2007
2. Amita Sinvhal; Understanding Earthquake Disasters, Tata McGraw Hill
3. P. N. Agraval; Engineering Seismology Oxford & IBH Publishing
4. C.V.R.Murty; Earthquake Tips National Information Centre of Earthquake Engineering I I T Kanpur
5. Pankaj Agrawal & Manish Shrikhande ; Earthquake Resistant Design of Structures Prentice- Hall of India

5FECE05: FREE ELECTIVE-I
(ii) BASICS OF BUILDING CONSTRUCTION
SECTION –A

Unit-I : Introduction: Definition of building as per national building code, components of buildings and their function , Types of structure-load bearing structure and frame structures, their relative advantages and disadvantages, load bearing walls and partition walls. Types of foundation- Definition and necessity and types of foundations, precautions to be taken against failure of foundations

Unit-II : Stone Masonry- Technical term, general principles to be observed during construction, selection of stone masonry. Brick Masonry Construction- Technical term, general principles to be observed during construction, commonly used types of bonds

6CE10: MINOR PROJECT – Lab

Any one Group Project in details.

1) Irrigation Project
2) Rehabilitation of Village / Town
3) Water Supply Project
4) Sewerage System
5) Bridge on River

Students should conduct a detailed survey in a seven day camp.

Data Analysis, Design & Submit Report & Drawing sheets.

SYLLABUS PRESCRIBED FOR
BACHELOR OF ENGINEERING
CIVIL ENGINEERING
SEMESTER PATTERN (CREDIT GRADE SYSTEM)

SEMESTER SEVEN

7CE01 THEORY OF STRUCTURES – II

SECTION - A

Unit-I :
1. Moment distribution method, application to portal frames with sway. Multibay, multistoried, symmetrical frames subjected to symmetric loads only.
2. Slope deflection method: Application to portal frames with side sway.

Unit-II :
1. Kani's method: Continuous beams and single bay single storey portal frames with side sway.
2. Multi- bay, multi storeyed frames subjected to symmetric loads.

Unit-III :
1. Castigliano's second theorem, principle of least work, Analysis of redundant frames. (up to two degree redundancy).
2. Analysis of redundant trusses (up to second degree of redundancy), lack of fit, temperature effect.

SECTION - B

Unit-IV :
1. Maxwell's reciprocal theorem, Betty's theorem, Muller - Breslau's principle, Influence line diagrams for continuous beams, upto two span only.
2. Tension coefficient method & its applications to simple space trusses.

Unit-V :
1. Flexibility method, static redundancy, flexibility coefficients, compatibility condition application to beams.
2. Introduction to plastic analysis of steel structure, shape factor, plastic section modulus, Redistribution of moment, upper and lower bound theorems, collapse loads for beams, single bay, single storey portals.

Unit-VI : Stiffness method, kinematic redundancy, stiffness coefficients, direct stiffness approach, application to continuous beams and single - bay, single - storey portal.

BOOKS RECOMMENDED:

1. Junnarkar, S. B., Mechanics of Structure, Volume I and II
2. Jain and Arya, Theory and Analysis of Structures

3. Reddy. C. S., Basic Structural Analysis, Tata McGraw Hill
4. Wang, C. K., Elementary Analysis of Structures
5. Norris and Wilbur, Elementary Structural Analysis

7CE02 GEOTECHNICAL ENGINEERING – II

SECTION – A

Unit I : Exploratory Programme : Field exploration, objectives and methods of exploration planning of exploration programme soil boring , hand augers, percussion boring, rotary wash boring, collection of sample, split spoon sampler, area ratio, disturbed and undisturbed sample, SPT test, field vane shear test, geophysical methods, electrical resistivity and soil refraction methods. Soil log bore presentation and interpretation exploration data.

Unit II : Bearing Capacity of Shallow foundation :- Different theories: Terzaghi's skempton's, Meyerhof's, BIS method for bearing capacity , determination bearing capacity of granular soils based on SPT value. concept of raft foundation and floating foundation.
In situ methods of evaluation of bearing capacity, plate load test, static cone penetrometer, pressure meter test contact pressure distribution diagram below the base of footing.

Unit III : Earth pressure at rest, general & local Stages of plastic equilibrium, Rankine's and coulomb's theory of active and passive earth pressure on retaining wall. Influence of surcharge, water table, wall friction, Rebhann's and culmann's simple graphical methods Ground Improvement : methods of soil stabilization use of admixture (lime, cement, flyash) in stabilization) Mechanism of reinforced soil, use of Geo synthetics material as a reinforcement, vibroflotation, sand drain installation and preloading.

SECTION – B

Unit IV: Pile foundation : Classification of piles and their uses, static analysis, formula for determination of pile capacity for driven and bored pile in sandy and in clayey soil , dynamic pile formula Negative skin friction, factor affecting it, piles in groups and their capacity, group efficiency, factors affecting group efficiency, behavior of group of pile in sandy and in clayey soil, pile load test, effect of pile cap. Criteria for spacing and depth of piles. IS design criterion for undereamed Pile in clay and sands

UnitV: Settlement Evaluation of soils settlement : immediate, primary and secondary settlement for footing resting on homogenous isotropic, cohesive and cohesion less soils related to single footing, combined footing, raft foundation etc, standard for requirement of settlement,

total as well as differential settlement, concept differential settlement, factors and causes for differential settlement, service loads, proportioning of footing for uniform settlement computation of total and differential settlement of a single pile and group of piles in sandy and clayey soil.

Unit VI : 1. Well foundation : Component & their function, sinking of well, types of force system, and their computation, design criteria for various components of wells, tilting and shifting

2. Design of cantilever retaining wall and counterfort retaining Bearing capacity of well as per IS. Cofferdam purpose, various types their suitability

BOOKS RECOMMENDED :

1) Craig : Soil Mechanics.
2) Bowles J.E. : Foundation Design Analysis.
3) Hanson : Theoretical Soil Mechanics.
4) Peck and Hanson : Foundation Engineering.
5) Tomlinson : Foundation Engineering.
6) Leoner : Foundation Engineering.
7) Bramha : Foundation Engineering.
8) Prakash S. : Analysis and Design of Foundation and Retaining Structure.
9) Kasmalkar : Foundation Engineering.
10) Arora K.R. : Foundation Engineering.
11) Venkataramiah : Soil Mechanics and Foundation Engineering.
12) Rao G.V. : Engineering with Geosynthetics.

7CE03 STRUCTURAL DESIGN – II

SECTION-A

(R.C.C. STRUCTURES BY LIMIT STATE METHOD)

Unit-I : 1. Design of interior panel of flat slab by direct design method. (Problem on square panel only)

2. Design of cantilever retaining wall and Counterfort retaining wall.

Unit II : 1. Design of combined footing.

2. Complete design of simple, small structures like Canopies & Parking shed.

SECTION - B
(PRESTRESSED CONCRETE)

Unit-III : 1. Introduction to Prestressed concrete: Materials and their characteristics, types of prestressing, Methods and various prestressing systems, Losses of prestress

2. Analy. of beams for flexure, under working load for Rectangular and flanged sections.

Unit-IV : 1. Basic Design of rectangular sections for flexure by limit state method, Design of one way single span slabs.

2. Design of prestressed concrete circular water tanks by IS code method.

Students may be shown video CD, slides, transparencies, and photograph of actual structures.

BOOKS RECOMMENDED:

1. Jain, A. K., Reinforced Concrete (Limit State Design)
2. Jaikrishna and Jain, Plain and Reinforced Concrete, Volume I and II
3. Sinham S. N., Reinforced Concrete (Limit State Design)
4. Edward G. Nawy "Prestressed Concrete- A fundamental Approach", Prentice Hall
5. Lin, T. Y. and Burns N. H., Design of Prestressed Concrete Structures, John Wiley and Sons.
6. Krishna Raju, N.; Prestressed Concrete Structures; TMH; Delhi)
7. Dr. Shah V.L. & Karve S.R.: Limit State Design.

7CE04 ENVIRONMENTAL ENGINEERING–I

SECTION - A

Unit-I : Quantity Estimation of water: Demand of water. Consumption for various purposes. Fire demand, Per capita demand. Factors affecting consumption. Fluctuation in demand. Design period, forecasting population, and design periods for water supply components.

Sources: Surface sources, ground water sources, Infiltration Galleries, Relative merits of sources, assessment & suitability, selection.

Intake works: Intakes, type, location, requirement & features.

Unit-II : Water quality: Impurities in water, their effects and significance water borne diseases, collection of water samples. Water analysis physical, chemical and bacteriological. Water quality standards: I.S. & WHO, Flow diagrams and layouts of different water treatment works.

Unit-III : Aeration: Purpose, type of gravity, aerator & spray aerators. Sedimentation: Plain and with coagulation, different coagulants used, dose of coagulant, Jar test, coagulant, feeding and mixing devices. Flocculation, clarrifloculator. Design criteria for sedimentation tanks, surface loading, simple problems of design of sedimentation tanks.

SECTION - B

Unit-IV: **Filtration :-** Rapid sand and slow sand filters, filter media, Rate of filtration, under drainage system and washing process. Control system, Negative head, operating difficulties, pressure filter; Simple design problems on rapid sand filters modifications of filters. (Dual media, multimedia, upflow, biflow, Diatomaceous earth).

Unit V: **Disinfection** :- Requirement of good disinfectant, methods of disinfection. Chlorination: Methods, prechlorination, post chlorination. Break point chlorination and super chlorination forms of chlorine. Use of bleaching powder - Simple problems. Introduction to tertiary treatments like Softening, Ion Exchange, Reverse Osmosis, Defloridation, Desalination.

Unit-VI: Distribution system: - Types of supply - Continuous, and intermittent, Types of system - Gravity; Pumping and combined gravity and pumping, Layouts of distributions system, Dead end, Grid iron, Circular system and Radial system. Maintenance of distribution system. Equalising storage, Type of storage reservoirs, capacity. Types of conduits, Relative merits, selection, joints, hydraulic design. Pipe laying and

BOOKS RECOMMENDED:

1. Steel E. W. , Water Supply and Sewerage, Mc-Graw Hill.
2. Kshirsagar S. R., Water Supply Engineering, Roorkee Pub house, Roorkee.
3. Birde G. S. , Water Supply and Sanitary Engineering, Dhanpat Rai and Sons, Delhi.
4. Punmia B. C. water Supply Engineering.

7CE05 PROFESSIONAL ELECTIVE – I
(i) ADVANCED WATER TREATMENT

SECTION-A

Unit - I: Requirements of water treatment facilities different unit operations and unit processes.
Coordination of unit operations. Common attributes of water affected by conventional unit operations and processes.
Aeration: rate of gas absorption and desorption, objectives of aeration, gravity aerators and spray aerators, governing factors, design of aerators, removal of methane, C02,H2S taste, design and odour.

Unit-II: Objectives of flocculation, chemical coagulation, concept of surface charge, coagulating effects of electrolytes, zeta potential, coagulants and coagulant aids, factors affecting coagulation.

Perikinetic and orthokinetic flocculation - mixing and stirring devices, flash mixing flocculators, construction and operation of flocculators, problems on design of flocculators. Pebbled bed flocculator.

Unit-III: Sedimentation: objectives, theory of sedimentation discrete settling and hindered settling, settling of floucculant suspension. Ideal settling basin and its efficiency. Design, construction and operation of sedimentation tanks.
Inlet and outlet hydraulics, sludge, removal and disposal, tube and plate settlers. Problems on design of sedimentation tanks.

SECTION-B

Unit-IV: Filtration: objectives, design, construction and operation of rapid and slow sand filters, filtering sand, grain size and size distribution, preparation of filter sand, hydraulics of filtration. Hydraulics of fluidized beds. Scour intensification, high rate, declined rate, upflow biflow, dual media, diatomaceous earth filters.

Unit-V: Disinfection : objectives, different disinfectants, chemical disinfection, theory, factors governing, and kinetics. Disinfection by Ozone. Disinfection by chlorine; free available and combined. available chlorine, break point chlorination, chemical technology and other uses of chlorine, manageable variables.

Unit-VI: Miscellaneous methods of treatment : Water softening: limesoda and zeolite process, split treatment problems on calculation of dose of lime and soda ash. Iron and Manganese Removal : Fluoridation and defluoridation. Desalination. Taste and Odour Removal.

BOOKS RECOMMENDED:

1) Fiar, Geyer & Okun : Water and Waste Water Engg., John Wiley & Sons.
2) Mark J. Hammer : Water and Waste Water Technology, John Wiley & Sons.
3) Steel E.W. & Ghee M.C. : Water Supply & Sewerage, McGraw Hill Co.

7CE05 PROFESSIONAL ELECTIVE – I
(ii) ADVANCED GEOTECHNICAL ENGINEERING

SECTION-A

Unit - I: Clay mineralogy : Introduction, atomic bonds, classification and nomenclature, structure of clay mineral, K lonite. Illite and Montmorillonite groups, physical properties, clay-water relations,

P. R. Pote(Patil) College of Engineering & Management Amravati

COVID-2020-21 NSS Report

Program Officer
Prof. S. S. Mendhe
Prof. P. M. Manakar

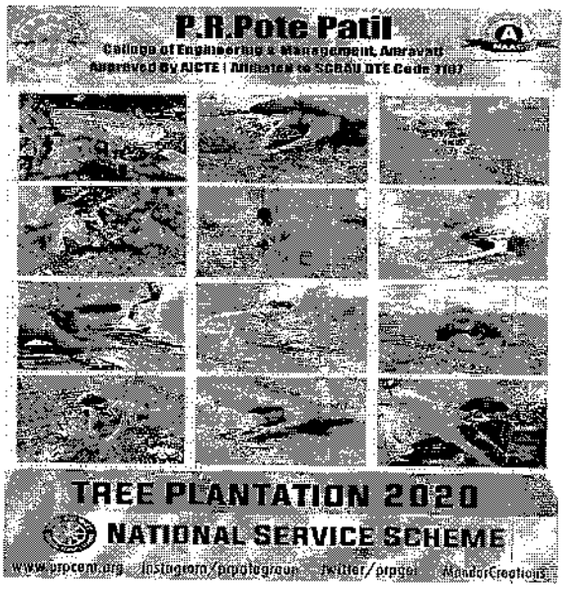
Principal
Dr. A. V. Kale

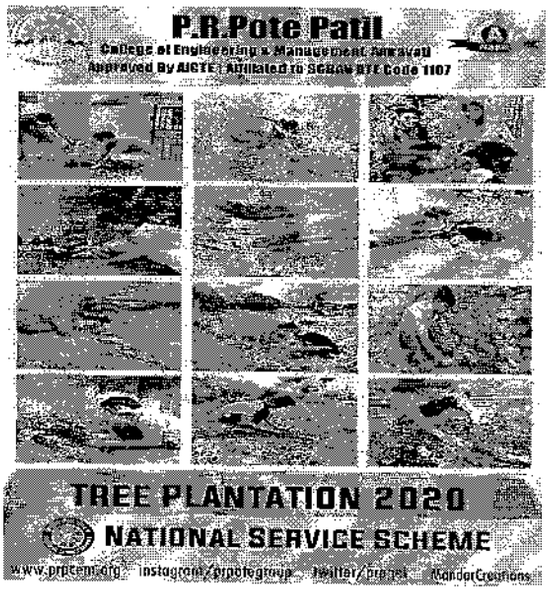
P.R.Pote Patil College of Engineering and Management, Amravati

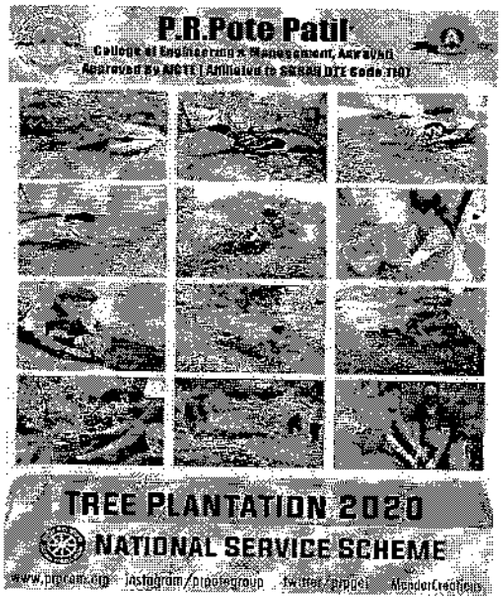
National Service Scheme (2020-21)

Tree Plantation during Covid-19 Pandemic at Students Villages- 09/07/2020

The NSS cell of P.R. Pote(Patil) College of Engineering & Management Amravati create a lot of awareness on the importance of tree plantation in surroundings areas. In addition to this, tree plantation programs are conducted in different villages during corona & lockdown. Students are staying home during lockdown, during this period NSS Cell organized Tree Planation program at native place with social distancing. So far, approximately 150 saplings have been planted to the students, faculty members in their own village. The huge response from all NSS volunteers during plantation.

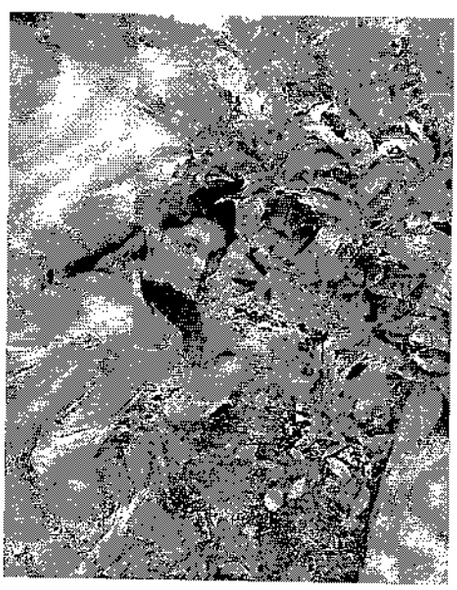






Tie 'Rakhi' to Trees, Take Pledge to Protect Them-03/08/2020

No guesses here. Students of P. R. Pote(Patil) College of Engineering & Management Amravati celebrated Raksha Bandhan in a unique style when they tied rakhis to trees to send across the message of saving environment and making people aware about the benefits of plants in daily lives. Organised by the National Service Scheme the event was held in the NSS Volunteers Native Places due to Covid-19 & Lockdown. The participants tied sacred threads to plants having heritage, medicinal and aesthetic value. They included tulsi, temple tree (plumeria), camphor, paarijaat, chandan, panchmikhi rudraaksh, timbru, mahua, putranjiva, peepal, sohanjana, chandani and many more. More than 60 students, research scholars and faculty members participated. "They expressed their affection and harmony towards nature, and took pledge to protect and conserve the nature and its resources for cleaner, greener and healthier prospects," said Dr. S.A. Ladhake Director, PRPGI Amravati



FREDOM-FEST 2020 Poster making, Article & Poem Competition- 15/08/2020

P. R. Pote(Patil) College of Engineering & Management always encourages student's participation in competition for their Creative development. The NSS unit of P.R. Pote(Patil) College of Engineering & Management organized poster making activity on 15th August, 2020 FREDOM-FEST 2020. The aim behind conducting this competition was to check the creative and artistic skills of the students. All the NSS membered assembled in the Online Google Meet for making the Planning.

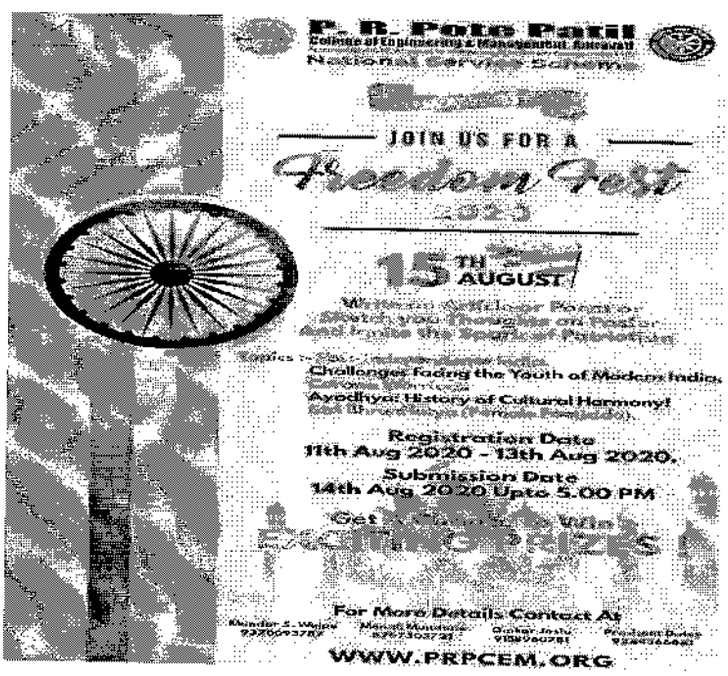
The suggested themes of the competition were:

- Corona Warrior
- Stree Brunahatya

The following students bagged the First, second and third position in the poster making competition.

- 1. Prajwal Deshmukh
  2. Rutiksha Shevatkar
  3. Amruta Gotarkar

The winners were awarded with the certificates & prizemoney.



AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.3 Curriculum Enrichment

1.3.2	Number of courses that include experiential learning through project work/field work/internship during the year

Criteria-1 Curricular Aspects

1.3.2

Content

P.R. Pote Patil College of Engineering & Management, Amravati

Department of Civil Engineering

Class: BE Final Year

List of Project Batch with Titles

2020-21

Grp No	Student Name	Project Title	Project Guide	PRC Member 1	PRC Member 2
1	Ashwini ManoharWath Dhanashri Subhash mahore Pratiksha Sunil Raut Priya Anandrao Patil Shivani J Sultane Priya Manoj Sawarkar Ashwini Vijay Ramteke	Seismic Analysis of RCC Structure	Dr. Mohd. Zuhair	Dr. S.S. Saraf	Prof. N.P. Bhopale
2	Harish Sanjayrao Bende Gayatri Pravin Bhugul Payal Sanjay Mutyarpawar Pallavi Ramesh Chandele Amit PrakashLangade Pragati Someshwar Dharme Mayur Ashokrao Pohankar Chetan Bharat Gawande Rohan Ravindra Bhatkar	Study on settlement behavior of Clayey Soil	Dr. S.S. Saraf	Dr. Mohd. Zuhair	Prof. N.P. Bhopale
3	Damini Gopal Pathare Neha Nagorao Kuralkar Shantanu Vivek Bharsakle Pratiksha G. Adwekar Aman Charandas Nagle Prasad Dipakrao Wagh Hrushikesh M. Tayade Vaibhav P. Mohod Abhinav Vilasrao Khalokar	Analysis of RC Building for different seismic parameters	Prof. N.P. Bhopale	Prof. A.K. Chitkeshwar	Prof.S.V. Pawar
4	Sharvari Indrajeet Hiwase Radha Prakash Vighe Kshitija Vijay Bagde. Anurag Sanjay Sawarkar Indranil Anil Deshumukh Abhishek Suresh Yadav Ankita Chhatrapati Thakre Tejaswini Arunrao Khare Sumit Dinesh Mankar	Analysis of multistory buildings under different seismic zones using response spectrum method	Prof. A.K. Chitkeshwar	Prof. N.P. Bhopale	Prof.S.V. Dhoke
5	Shreyash Sharad Watane Pratiksha Vijay Yeotkar	Design and analysis of RCC	Prof.S.V. Dhoke	Dr. S.S. Saraf	Prof. M.A. Rehman

	ApurvaMilindWankhade	Box culvert as per IRC :6-2017			
	Isha SanjayGiri				
	SurakshaD. Thelkar				
	SarthakS.Adhau				
	ShiwaliDipakGupta				
	ChandrakantSunilVirkhare				
	NishaJ. Gudadhe				
6	VrushaliRamraoDharpawar	A study of urban afforestration	Prof.S.V. Pawar	Prof.S.V. Dhoke	Prof. P. N. Deshmukh
	VishakhaNarendraMandle				
	MansviD.Sanap				
	SiddheshSanjayBhave				
	AkashAnandKadu				
	RoshanArunraoWatmode				
	PritamSharadraoRaut				
	SanidhyaShankarBundele				
	Sampada Sunil Deshpande				
7	Parikshit Sanjay Bhagat	Design of Environment Friendly Building	Prof.V.R. Mahalle	Prof.S.V. Dhoke	Prof. M.A. Rehman
	Mohit Sunil Shende				
	Mayur KishorTale				
	Sohail Khansadique Khan				
	Subodh Sanjay Dhenge				
	Vedashree NarendraNirmal				
	Jayesh Ramesh Kharode				
	Krushna Ramdas Surve				
	Jivan VishwasraoWarankar				
8	Vaibhav Pramod Tayade	Soil stabilization using Plastic Waste	Prof.C.S. Bidwaik	Prof. A.K. Chitkeshwar	Prof. P. N. Deshmukh
	Rushab Pravinrao Thorat				
	Nikhil Nilkanth kinake				
	Omed Habib Khan				
	Tanay C. Gawande				
	Tejas Diliparao Anasane				
	Shrikrushna Raju Ade				
	Sharad Baliram Sonkamle				
	Vikas Vikram Pohote				

H.O.D. (Civil Dept.)

Dr. S. S. Saraf
Head of Department

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions
College of Engg. & Management, Amravati

Department of Electronics & Telecommunication Engineering

List of Project with Project Title

Class: BE Final Year Sem-8

Session: 2020-21

Grp. No.	Name of Student	Project Title	Project Guide	PRC Member 1	PRC Member 2
1	Mr. Sunny Tawar Mr. Mandar Bhalerao Mr. Dhananjay Katre Mr. Adarsh Ravankar Mr. Shubham Shende	COVID Symptoms Detection System	Dr. R. D. Ghongade	Prof. P. N. Pusdekar	Dr. G. D. Dalvi
2	Ms. Rupali Marke Ms. Sakshi Malasane Ms. Anuja Hingne Ms. Mansi Sanghani Ms. Barkha Nirapure	Automatic Smart Car System	Dr.G. D. Dalvi	Prof. U. W. Hore	Dr. R. D. Ghongade
3	Ms. Rutuja Ghatole Ms. Ashwini Pawar Ms. Rutuja Kalbande Ms. Neha Mankar Ms. Shraddha Harne	IOT Based Smart Safaty Monotoring System For Sewage	Prof. U. W. Hore	Dr. G. D. Dalvi	Prof. R. D. Sushir
4	Ms. Saloni Gupta Mr. Ashish Patekar Mr. Pravin Rathod Ms. Ekta Borkar Ms. Pooja Ambalkar	Grren House project using GSM module	Prof. G. D. Nagoshe	Prof. U. W. Hore	Prof. B. R. Mankar
5	Ms. Samiksha Duryodhan Ms. Vaishali Bhongade Ms. Tanvi Watane Ms. Divya Kharbade	Temperature access using AVR, DA microcontroller with sanitizer 2	Prof. P. N. Pusdekar	Prof. G. D. Nagoshe	Prof. V. B. Langote
6	Ms. Shruti Belokar Ms. Dhanashri Choudhari Ms. Ujwal Deole Ms. Snehal Bharsakle Ms. Shubhangi Bambal	Web-Enabled ML Mask Detection Robot	Dr. V. B. Padole	Prof. S. P. Bhonge	Prof. A. R. Pawade
7	Ms. Kranti Thakare Ms. Rutuja Pundkar Ms. Pratiksha Sable Ms. Mrunal Deshmukh Ms. Ankita Deshmukh	Smart Bot for Soil Nutrients Level Prediction With Analysis	Prof. R. D. Sushir	Prof. G. D. Nagoshe	Dr. V. B. Padole
8	Ms. Dhanashri Bhojapure	Arduino based	Prof. B. R.	Prof. V. B.	Prof. A. R.

	Ms. Disha Gharat Ms. Ekta Kodhe Ms. Sakshi Tidake Ms. Vaishnavi Harne	radar system using ultrasonic sensor	Mankar	Langote	Pawade
9	Ms. Avanti Tekadpande Ms. Mrunali Mohod Ms. Anuja Tarale Ms. Rewati Sapkal	Raspberry PI Wheelchair With Safety System	Prof. S. P. Bhonge	Dr. V. B. Padole	Prof. A. R. Pawade
10	Ms. Shraddha Warhade Ms. Aishwarya Kokate Ms. Diksha Ambadkar Ms. Rakhi Javanjal Ms. Vedika Joge	Noise Detector with Automatic Recording System Using Arduino With The IoT	Prof. A. R. Pawade	Prof. P. N. Pusdekar	Prof. B. R. Mankar
11	Mr. Gaurav Paikrao Mr. Kartik Kakad Mr. Pawan Langote Mr. Manish Band Mr. Akshay Hatwar	Agricultural Crop Protection	Prof. V. B. Langote	Dr. V. B. Padole	Prof. S. P. Bhonge
12	Ms. Rakshanda Chandekar Ms. Rushanki Belokar Mr. Nikesh Wanjari Mr. Bhushan Baringe Mr. Shubham Rathod Mr. Ajay Jadhav	An Implementation of Embedded System for Student Record Keeping using Iot	Dr. R. D. Ghongade	Prof. R. D. Sushir	Prof. V. B. Langote
13	Mr. Pratik Giramkar Mr. Shailesh Wankhade Ms. Shweta Anasane Ms. Surbhi Dhole Ms. Shamal Kalmegh	Smart Speaking System for mute people using hand motion and gestures	Dr.G. D. Dalvi	Prof. U. W. Hore	Prof. R. D. Sushir

Dr. R. D. Ghongade

Head of Department

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions
College of Engg. & Management, Amravati

Department of Electrical Engineering (Shift-I)

List of Project with Project Title

Class: BE Final Year Sem-8

Session: 2020-21

Group No	Student Name	Project Title	Project Guide	PRC Member
1	Manjiri Kalambe Pragati Babade Ayushree Wankhade Ragni Atram Avantika Kale	Intelligence Ambulance	Prof. P.R.Rane	Prof. A. A. Ghute Prof.Y.D.Shahakar
2	Ashwini sarap Aman Pant Amit Mohakar Tushar Tembhare Mrunalini Wadnerker	Multiple AC controlling unit based on different AI with Duel Language	Prof. S.B.Warkad	Prof.D.A.Shahakar Dr. A.S.Telang
3	Shrirang Futane Rishikesh Dambale Nikhil Bhave Vaibhav Chaware Athar Shaikh	Solar power monitoring system	Prof. A. A. Ghute	Prof.P.J.Kotak Dr. S.B.Warkad
4	Maithili Ninghot Amruta Rithe Yogini Bhojane Vaibhavi Bhute Abhijeet Gawande	A Smart Hand Glove.	Prof.Y.D.Shahakar	Prof. S.A.Jalit Dr. A.S.Telang
5	Mohit Mehare Prasad Raut Kartiket Kadu Vishal Bagade Manali Waghde	Modeling and Simulation Of Battery Electric Vehicle using MATLAB Simulink	Prof. D. A. Shahakar	Dr. S.B.Warkad Prof.H.S.Kulat
6	Sakshi Hirulkar Kanchan Gailwad Pooja Indhane Kalyani Ingle Akash Sundarkar	Hydrogen fuel cell based Electric Vehicle	Dr. A.S.Telang	Prof.Y.D.Shahakar Prof. S.A.Jalit
7	Devanshu gayki Moresh sambhare Pallavi manne Shrushti isokar Nikita Mungane	Smart energy meter for domestic use	Prof. S. B. Warkad	Prof. S.V.Kalmegh Prof.P.M.Mankar
8	Swapnil Tumbwad Sanchay Solankhe Vaibhav Hiwase	Automatic Accident Detection, Ambulance Rescue and traffic lights	Prof.H.S.Kulat	Prof.D.A.Shahakar Prof. A. A. Ghute

	Nikhil Pidurkar Pooja kopare	controller		
9	Rachana Jambhalikar Dhanashree Sonparote Devendra Lawhale Pravin Solanke Akash Anil Mohod Arpita tekarwade	Parameter estimation of single phase induction motor	Dr.A.S.Telang	Prof. P.J. Kotak Prof. P.R.Rane
10	Babasaheb Jadhav Ashish lagad Shubham katore Vaibhav bhagwat Akash Jaybhaye Rushikesh Chore	Coal Miners Safety Helmet	Prof. S.A. Jalit	Prof. A.K. Duchakke Prof. A.P.Pundkar
11	Karan Ahir Ashutosh Gulaxe Himanshu Paliwal Pawan Pokale Anurag Bisne	Three phase power quality analysing and fault detection unit	Prof.D.A. Shahakar	Prof. H.S.Kulat Prof. S.A.Jalit
12	Mansi.G.Kulkarni Sanjana.V.Bhawane Neha.F.Rathod Ankita.Kasdekar Aishawarya.D.Maidankar Pratiksha.Shegokar	Study of smart grid and technology used in smart grid	Prof.P.M. Mankar	Prof. P.R.Rane Prof.S.V.Sonkhaskar
13	Abhishek Charthal Sanjana Kushawaha Sayali Kale Rajeshree Thakare Rutik Shisthe	Parks-Hilbert transforms Statistical parameters approach to classify ANN Network.	Prof.P.R. Rane	Prof.P.M.Mankar Prof. H.S.Kulat

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Prof. D. A. Shahakar
Head of the Department

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions
College of Engg. & Management, Amravati

Department of Electrical Engineering (Shift-II)

List of Project with Project Title

Class: BE Final Year Sem-8

Session: 2020-21

Group No.	Name of the Students	Project Title	Project Guide	PRC Members
1	Bhavana Devidas Budhe Neha Ravindra Lonare Vaishnavi P.o Lothe Nikhil Dipakrao Sarode Shubham Vijayrao Thakare Shubham T. Ranotkar	Gas leakage detector and control system using gsm	Prof. P. M Mankar	Prof. D. A. Shahakar Prof. P. J. Kotak
2	Tejas Bambadkar Snehal Wadhai Ujwal Bhagat Chetan Verulka Manisha Sarap	Power control with active system	Prof. Y. D. Shahakar	Dr. A. S. Telang Prof. P. R. Rane
3	Rutik Pnditrao Bijwe Deep Sanjay Kale Chand Rajendra Gedam Rushikesh kishor pardhi Vaibhav Subhash Damle	Managing and mixing explosive material or chemical with the help of Acoustic tractor bea	Prof. S. V. Sonkhaskar	Prof. S. A. Jalit Prof. A. P. Pundkar
4	Mrunali Darvinrao Charde Diksha Uttamrao Waykud Shamali Vinodrao Mavande Sweety Kiran Kasdekar. Samiksha Tevendrarao Deshmukh Pranay Prabhakar Hinge.	IOT Based Health Monitoring System Using Raspberry Pi Review	Prof. P. R. Rane	Prof. A. A. Ghute Prof. A.K. Duchakke
5	Kalpak Wardhe Shraddha Tekade Snehal Kadu Ajinkya Gawande Nikhil Kadu	Load Frequency Control in Two Area Power System	Prof. Y. D. Shahakar	Prof. H. S. Kulat Prof. S.V.Kalmegh
6	Ashwini R Damodar Monali K Kohale Abhishek E Gadekar Avinash P Adhawal Sumit P Gote Akash Rathod Rakhi D Goswami	Automatic Hand Sanetizer Dispenser	Dr. A. S. Telang	Dr. S. B. Warkad Prof. P. R. Rane
7	Avanti Deepak Deshpande Mayur Jadhao Pranay Aharwar Darshan Gupta Monali Tayade	Mutual inductance in wireless charging for emobility.	Prof. S. A. Jalit	Prof. S. V. Sonkhaskar Prof. A. K. Duchakke
8	Sujay Anil Bobade Komal Suresh Chavhan Chaitali Panditrao Raut Vishakha Sanjay Atkare	Smart agriculture system	Prof. D. A. Shahakar	Dr. S. B. Warkad Prof. A. A. Ghute

	Mrunal Sanjay Sadawarte Sujay Anil Bobade Sagar Devidas Jadhao			
9	Monali Mundane Nayan Garade Vaishnavi Pawar Vaishnavi Shete Ujwal Shende	Automation Of E-Wheelchair Using IOT	Dr. S. B. Warkad	Prof. P. M. Mankar Prof. D. A. Shahakar
10	Harshada Sharad Kadu Sakshi Sunil Mohod Akash Dipak Ingle Saurav Kishorrao Saykhede Shreyas Sanjay Ghawale	Covid prevention machine	Prof. H. S. Kulat	Prof. Y. D. Shahakar Prof. A. P. Pundkar
11	Suvarna Janardhan Bhople Rupali Onkar Warade/16 Vaishnavi Rameshwar Pandit Prjwal Tulshidasrao Kale Prathmesh P.Thakare	Heartbeat and temperature monitoring and controlling system for remote patients using Arduino	Prof. H. S. Kulat	Prof. P. R. Rane Dr. A. S. Telang
12	Sumit Lipne Pratik Gedam Shahaji Ghuikhedkar Chandrakishor Bohane Aditya lande Amruta Kadbe Pyush Tadas	Close Loop Control of BLDC Moter	Prof. A. A. Ghute	Prof. A. K. Duchakke Prof. S.V. Kalmegh
13	Anurag Gajanan Holkar Rahul Rajesh Yawatkar Tanmay Diwakar Bodade Gauri Govindrao Deshmukh Ankit Rajesh Punse Roll No Manisha Pundlik Dadmal	Mini Water Power Generator	Prof. S. A. Jalit	Dr. S. B. Warkad Prof. P.J.Kotak
14	Radhika motiram Mahalle Bhagawati Sunil Goswami Shreyash Ashok Dhawale Sarvesh O. Jawarkar Adhirath Kohale Pratik Ryakar	Password based circuit breaker using GSM module	Prof.P.M.Mankar	Prof. S.V. Kalmegh Prof. S. A. Jalit
15	Yugant P.Chikte Shrikant S. Ogale Sumit Wankhade Ankit Tayade Rushikesh Pimpalkar Vinay Uike	Home automation	Prof. S. V. Sonkhaskar	Prof. S. A. Jalit Prof. S. V. Sonkhaskar
16	Prashik khobragade Utkarsha Gedam Arpit Bhannare Chandrakanr Kakde	Smart waste management monitering system	Prof. A. K. Duchakke	Prof. A. A. Ghute Prof. D. A. Shahakar

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Prof. D. A. Shahakar
Head of the Department

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions
College of Engg. & Management, Amravati

Department of Mechanical Engineering
List of Project with Project Title

Class: BE Final Year **Session: 2020-21**

Sr. No.	Name of Student	Project Title	Name of Guide	Name of PRC Member	
				PRC Member 1	PRC Member 2
1	Hariom Ananda Fulari Aadesh Pravin mhala Akshay Naresh Ukhalkar Akash Ravindra Giri Anup Pralhad Rangari Tushar Damodhar Wankhade	Energy Efficient Air conditioner without Emission of HFC and CFC	Prof. P. B. Ingle	Prof. G. S. Mahalle	Dr. S. M. Tondre
2	Samruddhi Ravindra Vidhate Divya Dipak Dable Sweta Ravinder Thakare Ku. Tejaswini Arunrao kapade Prajakta Subhash ankurkar Shruti Kishor Yelane	Hybrid Solar pump	Prof. G. S. Mahalle	Prof. S. P. Yeole	Dr. S. M. Tondre
3	Amar Vijay Pimplkar Saurabh pramod Tarapure Saurabh Chindhu Dalal Ganesh Divakar Nerkar Gaurav Bandukumar Dhawane Vivek Punjaram Dhale	Parabolic plate solar water heater	Dr. S. M. Tondre	Prof. P. B. Ingle	Prof. S. P. Yeole
4	Aniket Dnyaneshwar Gawande Tanmay Shamsundar Badki Gaurav Rajendra Wagh Sonal Mohan Wankhade Shivani Sanjayrao Bhise Adesh Kishor Warbhe	Extraction of Biofuel from Agriculture and Biodegradable Waste	Prof. S. P. Yeole	Prof. P. B. Ingle	Prof. G. S. Mahalle
5	Kartik D.kalkar Nayan Sudhir Sonparate Kalyani Kisan Nalat Mayur Haridas Dakhore Mohit Vilasrao Dhore Sakshi kishorrao Alaspure	Automatic waste segregation system	Prof. P. R. Wadnerkar	Prof. R. S. Pokale	Prof. D. K. Chavhan
6	Mohit Diwakar Dhok Sarang Sanjay Sune Akshay pandurang Umbarkar Rushikesh Sanjayrao Toley Shubham Ramkrishna Gite Suraj Govardhan Thorat	Multipurpose Grass Cutter	Prof. D. K. Chavhan	Prof. M.G. Walecha	Prof. R. S. Pokale

7	Rutuj Pralhad Bule Manoj Harichand Rathod Rushikesh Jagdish Nimbhorkar Rushikesh Ramdas Madankar Shivani Sunil Tiwari Prajwal Ashokrao Ugale	Lucid spherical turbine	Prof. R. S. Pokale	Prof. P. R. Wadnerkar	Prof. M.G. Walecha
8	Nikhil Fakaru Pahanpate Rohit Ramesh Gongal Rushikesh narayanrao Junghare Deepesh Parde Meraj ul haque Izharul haque Ashwini Sunil Domble	Automatic solar power Air cooler	Prof. M.G. Walecha	Prof. D. K. Chavhan	Prof. P. R. Wadnerkar
9	Swapnil Laxman Tayde Pavan Santhosh Sabale Pratik Manikrao Pote Akshay mahadeo Marodkar Nilesh Dnyaneshwar Malkhede Rina Pundlikrao Kale	Solar operated striling engine	Prof. P. B. Ingle	Prof. V. G. Gore	Prof. S. G. Dalu
10	Sanket Keshaorao Thote Santosh Prakash Patil Saundary Janardhan Kale Deepak Kevendra kawale Sangam Rajan Vaidhye Swapnil Vinayak Phate	Solar operated matrial handeling and transporting device	Prof. S. G. Dalu	Prof. S. S. Mendhe	Prof. A. R. Sonekar
11	Abhishek Rutanjay Daterao Ajinkya Sanjay Wankhede Aniket Naresh Bhatkule Rajat Dipak Jagtap Pranay Pramodrao Gadbail Shivam Dattaraj Wankhade	Hybrid Electric Vehicle	Prof. S. S. Mendhe	Prof. A. R. Sonekar	Prof. V. G. Gore
12	Payal Dharmaratan Ukey Kunal Hemant Wakode Prajwal nanaji wankhade Shivani Raju Dhakade Dnyandeep Ashokrao Wanjari Jugal Ashokrao Barabde Harshad Madavi	" Energy harvesting by shock absorber"	Prof. V. G. Gore	Prof. S. G. Dalu	Prof. S. S. Mendhe
13	Abhinav Vilas Nagmote Sk Rehan Sk Roshan Parth Vilas Deshpande Samiksha Manoj Chaudhari Yash vasant Bohara Dnyaneshwari Parameshwar Bhakare	Sensible Solar Water Heater System	Dr. S. M. Tondre	Prof. P. K. Shivankar	Prof. A. S. Shaikh

14	Abhijeet Manoj Dhulekar Pratik Ganeshrao Thakare Pritesh Himmatrao Wankhade Mohd Noman Faisal Burhan Prajwal Prakashrao Pohokar Shreyash Arunrao Deshmukh	Design and mathematical calculation of El-bow gearless transmission system.	Prof. A. S. Shaikh	Dr. S. M. Tondre	Prof. Y. D. Bansod
15	Anirudha Ananda Charlu Prakash Devanand Gajbhiye Rushikesh sanjay Gulhane Rushikesh Devidas Gade Chaitanya Yashwantrao Mohod Pankaj Ajabrao pawar	Crop Protection By Using Different Sound Effects	Prof. V. G. Gore	Prof. A. S. Shaikh	Prof. P. K. Shivankar
16	Tanuj Vilasrao Choudhari Dewalya Hemantrao Tadas Prathamesh Prabhakar Awaghad Rutvik Vinodrao Lokhande Saransh Chandrashekhar Deshmukh Uday Satishrao Nimkar	Development of Hybrid Reinforced Polymer Composite For Storage Tank	Prof. P. K. Shivankar	Prof. A. S. Shaikh	Prof. Y. D. Bansod
17	Ashutosh vijayrao uike Bhushan Sureshrao Umale Rahul Dinesh Borekar Harshal Kathe shridhar janrao Chavan Ankush Nilesh Ganvir	Rotational moulding	Prof. N. R. Deshmukh	Prof. R. S. Pokale	Prof. D. K. Chavhan
18	Mayur Diliprao sarode Shubham Jayant Padwalkar Sudarshan Narendra Satpute Akshay Rameshwar Tathod Rohini vinay Bhamburkar Mrunal gajananrao kalmegh	Cooling of Photovoltaic (PV) Panel Using Water and Phase Change Material (PCM) With Fin for Increasing its Efficiency	Prof. S. V. Mishra	Prof. N. R. Deshmukh	Prof. D. K. Chavhan
19	Shrikant Manohar Malunjkar Saurabh Vilasrao Khandare Tejas Totaram Waghmare Sudhanshu Vasantrao Uchitkar Vikash Kumar Amrapali Premdas Kamble	Improving the heat recovery efficiency in process boiler operations by six sigma method	Prof. S. V. Mishra	Prof. D. K. Chavhan	Prof. A.W. Mahore
20	Utkarsh Suresh Yahul Sachin Suresh Yeul Akshay Subhashrao Gujar Mayur Sanjay Gangane Bhushan Wasudevrao Dudhe Nikhil Bhaskar Gaykawad Pranit Dhananjay Kuralkar	Power Generation By Speed Breaker	Prof. A.W. Mahore	Prof. A. R. Sonekar	Prof. Y. D. Bansod

21	Yash Surendrarao Mawale Chaman parashram Khandare Sahil Gaffarshah Shaha Ankush Ganeshrao Karodade. Sanket Madhukar Yewale Prathamesh Vitthalrao Tawalare Hemant Devidas Raut	Computer Aided Design and Analysis of Disc Brake Rotors	Prof. A. R. Sonekar	Prof. A.W. Mahore	Prof. Y. D. Bansod
22	Ganesh Ramkrushna Dhoke Mohd waseem Shah sattar Shah Shubham Rameshrao Rathod Pawan Kundlik Kudawe. Shubham Nandakishor More Shubham Pravin Dawale	Artificial Intelligence Digital Assistance(AIDA)	Prof. Y. D. Bansod	Prof. A.W. Mahore	Prof. A. R. Sonekar

Prof. [illegible] Wadhankar
Head of the Department

Copy to:

- Dean (R&D) for kind information.
- Project Guide- requested to inform their candidates.

P. R. Pote (Patil) College of Engineering and Management, Amravati

PG Department of Master of Computer Applications

List of Project with Title, 2020-21

Class: Third Year MCA

Grp. No.	Name of Student	Project Title	Project Guide	Technology Used
1	AISHWARYA SANJAYRAO MEHARE	Alumni Management	Prof A. S. Bhande	ASP. NET
	AKSHAY GANESHRAO HATKAR	Sports Management	Prof A. S. Bhande	ASP.NET
	ANKIT HEMANT BALAPURE	Project Allotment Monitoring and Scheduling	Prof A. S. Bhande	JAVA
2	ANUSHREE SURESH TAYADE	Smart Health Care Management	Prof A. S. Bhande	Android
	DIVYA MAHENDRA WANDHARE	SKY Tours and Travel	Prof A. S. Bhande	ASP.NET
	HARSHADA BANDU DEWALKAR	VC office management system	Prof A. S. Bhande	ASP.NET
3	KASHIF HUSAIN NASIR HUSAIN	E-Learning for Technical Job Seeker (TechnoQuest)	Prof P S Thombare	Java
	KEWAL PRADEEP CHOUDHARI	End to End Online Implementation of Water Billing System- for Urban Local Body	Prof P S Thombare	PHP
	KOMAL SURESHRAO INGALE	SKY Tours And Travel	Prof P S Thombare	ASP.NET
4	MAHESH TUKARAM CHAVHAN	E-Learning for Technical Job Seeker (TechnoQuest)	Prof P S Thombare	Java
	MANISH DILIPRAO JADHAO	Placement Management	Prof P S Thombare	ASP.NET
	MAYURI DILIP GAYDHANI	Project Management CRM	Prof P S Thombare	PHP
	MUGDHA NITIN DESHMUKH	Leaf Disease Prediction via Machine Learning	Prof P S Thombare	Python
	NAVNIT CHANDU RAUT	Online Police Training Recruitment System	Prof P S Thombare	ASP.NET , My SQL
5	PALLAVI SANJAYRAO DIWARE	Library Resources	Prof S. M. Jadhav	PHP
	PRAJAKTA SHAMRAO TEKAM	Garden Management System	Prof S. M. Jadhav	ASP. NET
	RADHA VILASRAO WAGDARKAR	Dermocare-Online consultation	Prof S. M. Jadhav	ASP.NET
6	RAKESH VIJAYRAO RAJOTE	social distancing measurement	Prof S. M. Jadhav	python

	RUSHABH BHARATRAO DESHMUKH	Guest House Mangement	Prof S. M. Jadhav	ASP.Net
	RUTUJA SUNIL WASU	Product recommendation system	Prof S. M. Jadhav	java
	SANKET ANIL PEMPAKWAR	E-Learning for Technical Job Seeker (TechnoQuest)	Prof S. M. Jadhav	Java
7	SAURABH GANGADHARRAO DHOTE	WeScrum	Prof S. M. Jadhav	ASP.Net MVC
	SHIVANI SUBHASH KHADE	Wi-Fi based Attandenac System	Prof R. V. Mahule	Java
	SHIVANI SUBHASHRAO DAHAKE	IPL-Analysis	Prof R. V. Mahule	Python-ML
	SHIVDAS LAXMAN PENDOR	Right to the Information	Prof R. V. Mahule	ASP.Net
8	SHIVGAURI UMESH KUBDE	Library Resources	Prof R. V. Mahule	PHP
	SNEHA GOPALRAO FUTANE	Alumni web portal	Prof R. V. Mahule	ASP.Net
9	SNEHAL RAMRAO BUNDILE	Restaurant Management System	Prof R. V. Mahule	MERN Stack
	SUNAINA SHASHIKANT POHARE	SKY Tours And Travel	Prof R. V. Mahule	ASP.NET
	SUVIDHA SAHEBRAO GANOSKAR	Online Police Training Recruitment System	Prof R. V. Mahule	ASP.NET, My SQL
10	VAISHNAVI RAJESH KUBDE	Restaurant Management System	Prof L S Bhattad	MERN Stack
	VAISHNAVI RAMESHWAR TAWALARE	malicious post detection in social network	Prof L S Bhattad	java
	NAMRATA KHAWALE	Property Expert	Prof L S Bhattad	PHP
	MAAYUR SONAR	PRODUCT FORECASTING IN E-COMMERCE WEBSITE	Prof L S Bhattad	PHP
11	SANKET WASANKAR	Employee performance evaluation	Prof L S Bhattad	PHP

Lecturer
P.R. Pote (Patil) Education & Welfare Trust's
Group of Institutions College of Engineering & Management
Kathora Road, Amravati

Prof. A. S. Bhande
Head of the Department

Sant Gadge Baba Amravati University

College Name- P. R. Pote (Patil) Education and Welfare Trust's Group of Institution, College of Engineering and Management, Amravati

(College Code - 817)

Class – MBA-2 Year **2020-2021** **Subject – List of Dissertation**

Sr. No.	Name of Students	Title	Specialization	Name of Guide
1	Urmila D. Barbudhe	A study on factors affecting investment in mutual funds and its preference of retail investors in Amravati city	Finance	Prof. S. R. Shah
2	Kanchan P. Sonare	A study on analysis of investment pattern of individual investors at stock market in Amravati city	Finance	Prof. S. R. Shah
3	Neha S. Dhoke	A study on relationship between financial inclusion and financial literacy and its impact on working woman in agriculture farms	Finance	Prof. S. R. Shah
4	Gayatri M. Shirbhate	A study of investors towards factors influencing investment decisions in stock market	Finance	Prof. S. R. Shah
5	Nilima G. Barpete	An evaluative study on internet banking services among selected public sector banks customers	Finance	Prof. S. R. Shah
6	Prajwal S. Ikhar	A Study On The Effect Of Working Capital On The Financial Performance of Nirankar Cottex Arvi	Finance	Prof. S. R. Shah
7	Apurva P. Kalbande	A study of financial positions of women entrepreneurs after covid-19 lockdown in Amravati city	Finance	Prof. N. S. Kariya
8	Surbhi N. Rathi	An analytical study of investment avenues to female investors in Amravati city	Finance	Prof. N. S. Kariya
9	Santoshi D. Burhan	A study of women consumer empowerment through television advertisements of selected healthcare products	Marketing	Prof. N. S. Kariya
10	Rutuja P. Pranjale	A study of consumer perception toward breaking the glass ceiling barriers in television advertisements	Marketing	Prof. N. S. Kariya
11	Vipin A. Kale	A study of consumer attitude toward violation of ethics in selected service sector television advertisements	Marketing	Prof. N. S. Kariya
12	Shoeb Akhtar Abdul Rafique	A study of effects of pricing strategy on consumers with special reference to selected brands of ambuja cement	Marketing	Prof. N. S. Kariya
13	Shraddha T. Garade	A study of investment pattern of medical practitioners in Amravati	Finance	Prof. V. A. Ingole
14	Nikita M. Shirbhate	A study on financial analysis and performance of hdfc bank	Finance	Prof. V. A. Ingole
15	Kalpesh V. Wankhade	A study of financial planning of government employees in Amravati city	Finance	Prof. V. A. Ingole
16	Akshay R. Shirbhate	A study of npa management system of jijau commercial cooperative bank ltd, Amravati	Finance	Prof. V. A. Ingole
17	Rupesh S. Dhandar	An analytical study of child insurance plans of selected insurance company in Amravati city	Finance	Prof. V. A. Ingole
18	Nikita C. Khanna	A study of elss schemes as tax saving investment for salaried employees in Amravati city	Finance	Prof. V. A. Ingole

19	Anchal M. Wadhankar	A study on preferences of salaried employees on various investment option avalable in Amravati city	Finance	Prof. P.W. Nimbhorkar
20	Pratik V.Yeotkar	A study of factors influencing consumer towards organize retail sector in Amravati city	Marketing	Prof. P.W. Nimbhorkar
21	Komal. D. Turkhade	A study the roll of social media platforms and its impact on buying behavior of customers in Amravati city	Marketing	Prof. P.W. Nimbhorkar
22	Bharati D. Bhondwe	A study of employee engagement practices and its impact on customers loyalty in tecnocraft industry india limited at Amravati city	H.R	Prof. P.W. Nimbhorkar
23	Rutuja J. Deshmukh	A study of grievance handling procedure and its impact on workers of sunflag iron and steel company limited at bhandara	H.R	Prof. P.W. Nimbhorkar
24	Vishal R. Thete	A comparative study on mobile banking and internet banking with respect to nationalize bank in Amravati city	Finance	Prof. P.W. Nimbhorkar
25	Ankita V. Ugade	A study of effects of social media on consumer purchase decision in Amravati city	Marketing	Prof. S K Singh
26	Manisha S. Jadhav	A study of technical analysis of selected scrips of banking sector listed in nse india	Finance	Prof. S K Singh
27	Rashmi R. Kakade	A study of factors influencing preference of public sector employees toward the financial investments	Finance	Prof. S K Singh
28	Priya V. Dalu	Influence of celebrity endorsement on smartphone purchase intention of youth consumer in Amravati	Marketing	Prof. S K Singh
29	Komal R. Kokate	A study of impact of sales promotion offers on consumer buying decision with reference to online shopping in Amravati city	Marketing	Prof. S K Singh
30	Shrihari V. Washankar	A comparative study of consumer buying behavior towards amul and dinshaw milk in Amravati city	Marketing	Prof. S K Singh
31	Mayuri R. Tayade	The impact of content marketing on online buyers decision for electronic gadgets in Amravati city	Marketing	Prof. S. B. Kadu
32	Priyansh B. Kakani	Analytical study of consumer preferences for ice-cream products in khandawa city	Marketing	Prof. S. B. Kadu
33	Rudrayani S. Sapdhare	Study on role of brands influencing consumer purchase decision for ladies ready-made garments in Amravati	Marketing	Prof. S. B. Kadu
34	Suraj P. Bihade	Consumer perception analysis of services provided by passenger car brands in Amravati city	Marketing	Prof. S. B. Kadu
35	Ankush S. Majalgaonkar	Study of the block-chain technology impact on financial services of selected private sector banks	Finance	Prof. S. B. Kadu
36	Vaishnavi H. Dawale	Study on financial fundamentals of selected automobile companies with special reference to Amravati city	Finance	Prof. S. B. Kadu
37	Rohini R. Kale	A study of performance appraisal policies adopted by ece (india) energies pvt. Ltd. Amravati	Hrm	Prof. F. K. Thomas
38	Shruti S. Kharate	A study of impact of mudra loan scheme on small scale businesses in Amravati city	Finance	Prof. F. K. Thomas
39	Janithajuliet A. Rathod	A study of various parameters of recruitment and selection practices adopted in private sector at Nagpur city	Hrm	Prof. F. K. Thomas
40	Swapnil S. Rai	A comparative study of customer preferences and consumer satisfaction in online shopping among amazon and Flipkart with respect to	Marketing	Prof. F. K. Thomas

		Amravati city		
41	Rupali P. Malwe	A study of various investment strategies and its benefits to the investors in stock market	Finance	Prof. F. K. Thomas
42	Kunal V. Wankhade	A study on consumer's perception, demand and buying behavior towards organic cereals and pulses at Daryapur taluka	Marketing	Prof. F. K. Thomas
43	Prajwal P. Malthane	A study of effectiveness of microfinance schemes for the development of women in Amravati city	Finance	Prof. P. B. Udasi
44	Vaishnavi R. Bobade	A study of micro financing through Kissan credit cards scheme	Finance	Prof. P. B. Udasi
45	Shaikh Imran Shaikh Sadique	A study on impact of crop loan for the agriculture development provided by selected public sector banks in Amravati district	Finance	Prof. P. B. Udasi
46	Aboli P. Kalbande	A study of the factors affecting on financial planning of private sector employees in Amravati city	Finance	Prof. P. B. Udasi
47	Shraddha V. Lokhande	A study of problems faced by investors towards digital banking services	Finance	Prof. P. B. Udasi
48	Srushti S. Gulhane	A comparative study on performance of selected mutual funds in india	Finance	Prof. P. B. Udasi
49	Ankita D. Dhatrak	A study of financial performance of select fmcg stocks listed on national stock exchange of india	Finance	Prof. S. D. Raut
50	Ashwini N. Raut	A performance analysis of money market mutual fund schemes of select asset management companies	Finance	Prof. S. D. Raut
51	Pooja R.Tayade	A study of impact of micro finance on financial wellbeing of women below poverty line in Walgaon area	Finance	Prof. S. D. Raut
52	Pratiksha S. Mathurkar	A study of role of securities and exchange board of India in primary market with special reference to equity issues	Finance	Prof. S. D. Raut
53	Tejal P. Shrirao	A comparative analysis of gold loan scheme and personal loan scheme offered by Jijau commercial cooperative bank limited in Amravati city	Finance	Prof. S. D. Raut
54	Trupti A. Wade	A study of tractor loan schemes provided by kotak Mahindra bank ltd. In Amravati district	Finance	Prof. S. D. Raut
55	Sakshi N. Korde	A study on the consumer preferences in beauty soap market with special reference to Amravati city	Marketing	Prof. K. G. Tiwari
56	Sumit M. Umap	Analytical study of farmers attitude towards organic farming practices in Amravati	Marketing	Prof. K. G. Tiwari
57	Piyush P. Vyas	A study of evaluation of investment performance in equity linked saving schemes of mutual funds	Finance	Prof. K. G. Tiwari
58	Mugdha S. Korde	A study of airtel's television advertising campaign "wife as a boss" and its effects on consumers	Marketing	Prof. K. G. Tiwari
59	Dipika D. Jolhe	A study of various factors that influence investors to invest in mutual funds over the investment opinions in Amravati city	Finance	Prof. K. G. Tiwari
60	Murlidar. D. Bajaj	A study of consumer oriented sales promotion strategies and its impact on customer of garment market in Amravati city	Marketing	Prof. K. G. Tiwari
61	Astha R. Bajpai	A study of risk and return analysis of selected scrips of banking sector listed on BSE India	Finance	Prof. M. D. Upadhayay

62	Pranoti R. Nagpure	A study of performance of selected large cap mutual funds	Finance	Prof. M. D. Upadhayay
63	Kalpesh N. Tayade	A study of marketing activities of NBFC's and its impact on small business in Amravati	Marketing	Prof. M. D. Upadhayay
64	Vaishnavi S. Bobade	A critical analysis of role of payment banks in bringing about financial inclusion	Finance	Prof. M. D. Upadhayay
65	Shruti M. Umale	A study of welfare activities with special reference to working conditions of employees at JPS Honda showroom, Amravati	Hrm	Prof. M. D. Upadhayay

HOD

H.O.D. (MBA Dept.)
P.R. Pote (Patil) College of Engg. & Mgmt.
Amravati

P. R. Pote Patil College of Engineering & Management, Amravati.
Department of Computer Science & Engineering
Details of Project Groups and Project Topics 2020-21 (subject 8KS07)

Group No.	Sr. No.	Name of Student	Project Guide	Project Title
A1	1 (G.L.)	Faiz Ahmed khan	Prof. P. V. Kale	Stock Market Prediction
	2	Aniket Nandkishor mohod		
	3	Ankit Gajanan Pote		
	4	Aditya Sunil Dhole		
	5	Roshan Sharad Mawale		
A2	1 (G.L.)	Pranav Rajesh Gangan	Dr. A. B. Gadicha	Student Counselling System
	2	Deepesh Ravindra Nakhale		
	3	Mehul Vilas Suramwar		
	4	Aniket Yadav Waghmare		
	5	M. Shoeb M. Firoz Sorathiya		
A3	1 (G.L.)	Samiksha Anil Metkar	Prof. K. B. Bijwe	Employees performance prediction using k map clustering and decision tree algorithm
	2	Prajakta Arun Tayade		
	3	Prajakta Dipak Mankar		
	4	Gauri Vijayrao Tayde		
A4	1 (G.L.)	Riya Chandrabhan Raghani	Prof. M. S. Burange	An Online System for Mentoring Student about educational institute
	2	Raksha Ajay Beriya		
	3	Saniya Anwar Abdul Salam		
	4	Vaishali Dinkar Dandale		
	5	Rita Dnyaneshwar Dakhore		
A5	1 (G.L.)	Zeeshan Misbah Shaikh	Prof. A. P. Dhande	Tenant Buddy
	2	Suyesh Dilip Badge		
	3	Saket Nitin Khandarkar		
	4	Tushar Parvez Mohd Zulfuq		
	5	Pranav Baghele		
	6	Swapnil D. Gawali		
A6	1 (G.L.)	Ashutosh Ashokrao Raut	Prof. P. P. Pawade	Disaster and Managment Based City Model
	2	Asawari Shrikant Tayade		
	3	Ghanshyam Gopal Lunge		
	4	Monika Raju Shahare		
	5	Twinkle Sanjay Gulhane		
A7	1 (G.L.)	Taha Saifuddin Boringwala	Prof. P. B. Sambhare	RTO Virtual License Generator
	2	Suraj Diwakar Athargade		
	3	Kaushik Raju Rao		
	4	Nitesh Murlidhar Parik		
	5	Sushant Shrivastav		
A8	1 (G.L.)	Siddhi Umesh Diwan	Prof. S. R. Sontakke	Automatic lecture scheduler
	2	Jagruti Balasaheb Sawai		
	3	Divya Praveen Thakare		
	4	Shivani Vijayrao Wankhade		
	5	Snehal Ashokrao Kadu		
A9	1 (G.L.)	Suyash Satish Nimbalkar	Prof. A. R. Ladole	A smart Chatbot using machine learning and deep learning
	2	Prajwal Rajendra Gawande		
	3	Devidas Suresh Pophalnare		

P. R. Pote Patil College of Engineering & Management, Amravati.
Department of Computer Science & Engineering
Details of Project Groups and Project Topics 2020-21 (subject 8KS07)

Group No.	Sr. No.	Name of Student	Project Guide	Project Title
	4	Vivek Ganesh Dhole		learning and deep learning.
	5	Shreyas Devidas Gedam		
A10	1 (G.L.)	Arpit Rajesh Sontakke	Prof. S. S. Sagane	Online Visiting Card Creation
	2	Samradhni Pravin Holey		
	3	Srushti Jagdishrao Deshmuk		
	4	Samruddhi Ratnakar Padole		
	5	Suraksha Dinesrao Bhele		
A11	1 (G.L.)	Krutika sushil vinchurkar	Prof. S. S. Deshmukh	Surveillance and security system
	2	Shivani vijay gotmare		
	3	Pranali rajendra ingole		
	4	Rani dayanand barse		
	5	Nainika uttamrao bhonde		
A12	1 (G.L.)	puja purushotam Nimkale	Prof. Z. I. Khan	Sport celebrate face detection
	2	Akansha Sunil Bhalerao		
	3	Prachi Ganeshsing Anawade		
	4	Niha shyam Dhole		
	5	Kalyani Diliprao Padole		
A13	1 (G.L.)	Divyashree Satyashil Mule	Prof. P. V. Chandwani	Web Chat Application
	2	Chaitali Manohar Mangate		
	3	Aishwariya Prakash Bute		
	4	Pranali Prakash Manwar		
	5	Devika Ramhari Wankhade		
A14	1 (G.L.)	Sanchit nandkishor umekar	Dr. C. A. Dhawale	ClassZ: A virtual learning environment
	2	Roshan shivdas budh		
	3	Aman Meshram		
	4	Laxmikant manohar korde		
	5	Gyanesh Manoj Sharma		
B1	1 (G.L.)	Rudrakshi Muktewar	Dr. C. A. Dhawale	Smart Health Care System
	2	Bharti Methani		
	3	Nilima Gawali		
B2	1 (G.L.)	Sanjogita Mishra	Prof. S. K. Nanda	Human Activity Recognition using Smartphone
	2	Madhavi sawarkar		
	3	Abhijeet Datey		
	4	Simran Ravindra Vyas		
	5	Rupali subhash Tayade		
B3	1 (G.L.)	Mahesh Dhoran	Prof. V. B. Bhagat	IOT base vehicle operating system
	2	Pratish Varma		
	3	Raj Sutane		
	4	Samiksha Bhange		
	5	Madhurika Belsare		
	6	Harshal Chambhare		
	1 (G.L.)	Vishakha V. Badre		PLANT JUSTIFICATION by using
	2	Purva D. Nimbhorkar		

P. R. Pote Patil College of Engineering & Management, Amravati.
Department of Computer Science & Engineering
Details of Project Groups and Project Topics 2020-21 (subject 8KS07)

Group No.	Sr. No.	Name of Student	Project Guide	Project Title
B4	3	Vishakha R. Bhise	Prof. A. A. Tayade	PLANT JUSTIFICATION by using image processing techniques
	4	Mohini M. Narale		
	5	Vaishnavi D. Mohod		
B5	1 (G.L.)	Samruddhi Manoj Mahalle	Prof. A. A. Tayade	Stock Market Prediction
	2	Priya Girdharrao Kukade		
	3	Sonal Prabhudasji Dhoke		
	4	Radhika Sham Chechare		
B6	1 (G.L.)	Rajashri Prakash Ital	Prof. A. P. Dhande	Online public grevinence system
	2	Sharayu Laxman Deshmukh		
	3	Roshani Ramdas Bhoyar		
	4	Dhanshri Diliprao Wankhad		
	5	Shrutika Liladhar Kuware		
B7	1 (G.L.)	Vinay Sanjay Kathale	Prof. K. K. Chhajed	Face Mask Detection for COVID - 19
	2	Pranay Ravi Patil		
	3	Nayan Dewanand Bawantha		
	4	Yash Ganesh Soni		
B8	1 (G.L.)	Akshay S Bharti	Prof. D. C. Dhanwani	Plagarism with data mining
	2	Nikhil S Manekar		
	3	Anagha G Kalmegh		
	4	Vaishnavi D Kohale		
	5	Shivani A Kalivkar		
B9	1 (G.L.)	radhika Uday Deshpande	Dr. A. B. Gadicha	Fake News Detection
		Shubham Ingle		
		Vaishnavi Wankhade		
	2	pratiksha bramhane		
	3	shoyab khan		
B10	1 (G.L.)	Srikant Dharpawar	Prof. T. G. Ghongade	Implementation of Student Safety System Using RFID
	2	Devidas uttam bende		
	3	Mayur Ashokrao Barai		
	4	sakshi Gunvantrao supale		
	5	shweta Haridas Thakare		
B11	1 (G.L.)	Mrunali B Sakharkar	Prof. K. B. Bijwe	Implementation of Credit card fraud detection using Luhn's Algorithm
	2	Dhanashri M Gosavi		
	3	Srushti G Khandare		
	4	Suraksha G Barve		
B12	1 (G.L.)	Rohit Hinge	Dr. A. B. Gadicha	Implementation of Student Safety System Using RFID
	2	Ashish Thakare		
	3	Shubham Bonde		
	4	Rushikesh Pophale		
	5	Sumit Patange		
B13	1 (G.L.)	Anushri Tatte	Prof. P. V. Kale	E - Clinic : Android based Clinic App
	2	Neha Ardak		
	3	Gouri Bundile		

P. R. Pote Patil College of Engineering & Management, Amravati.
Department of Computer Science & Engineering

Details of Project Groups and Project Topics 2020-21 (subject 8KS07)

Group No.	Sr. No.	Name of Student	Project Guide	Project Title
B14	1 (G.L.)	Sandesh Nanoti	Prof. V. B. Bhagat	Online public grevinence system
	2	Gaurav Gawande		
	3	Abhijeet Kharode		
	4	Hrushikesh Joshi		
	5	Prabhat zade		

HOD, CSE

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

Webakruti
We are the change

Plot No. 254, Dongre Layout, Abhyankar Nagar, Nagpur (MH) India - 440010

+91-9021345794, +91-7387863841, +91-7387990061

Ref. No. Web/2021-22/MOU/09

Date : 23/06/2021

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 23rd Jun 2021 Onwards for the next 3 years

Between

Webakruti - Web Application Design & Software Development Company Nagpur India, a company incorporated and existing under the laws of India and having its registered office at 254, Dongre Layout, Abhyankar Nagar, Nagpur, Maharashtra 440010 represented by its Co-owner & Training Director, Mr. Harish Chopkar as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as **ExTC, PRPCOEM**) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its **Head of Department Dr. R. D. Ghongade** of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. Webakruti - Web Application Design & Software Development Company Nagpur shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of VLSI, Open source technology, Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.
4. To carry out consultancy, Faculty Development program,Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.
5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.

6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from Webakruti - Web Application Design & Software Development Company Nagpur.

7. Students and Faculties of ExTC, PRPCOEM can coordinate with Webakruti - Web Application Design & Software Development Company Nagpur and benefit from Industry-Academic Partnership.

8. Students and faculties of ExTC, PRPCOEM coordinating with Webakruti - Web Application Design & Software Development Company Nagpur shall get exposure in the areas namely, Embedded system,Communication system, automotive electronics and testing as indicated by Webakruti - Web Application Design & Software Development Company Nagpur.

9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.

10. Webakruti - Web Application Design & Software Development Company Nagpur will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. Webakruti - Web Application Design & Software Development Company Nagpur will provide technical guidance to students and faculties to execute the projects successfully.

11. Webakruti - Web Application Design & Software Development Company Nagpur shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide Webakruti - Web Application Design & Software Development Company Nagpur with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of Webakruti - Web Application Design & Software Development Company Nagpur for its marketing and promotional purposes indicating Webakruti - Web Application Design & Software Development Company Nagpur as its Corporate/Technology/Industry Partner.

13. ExTC, PRPCOEM can take additional help of Webakruti - Web Application Design & Software Development Company Nagpur to train their people on different technologies on commercial terms.

VALIDITY , RENEWAL and TERMINATION of the agreement:

Webakruti
We are the change

Plot No. 254, Dongre Layout, Abhyankar Nagar,
Nagpur (MH) India - 440010

+91-9021345794, +91-7387863841, +91-7387990061

No. Date: / /

- This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three year term and as per the terms and conditions as deemed fit at that time.

- Webakruti - Web Application Design & Software Development Company Nagpur shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of Webakruti - Web Application Design & Software Development Company Nagpur.

Either Party may by giving one-month written notice to the other party terminate this agreement.

MR. HARISH CHOPKAR
(Co-owner & Training Director)
Webakruti, Nagpur,
Maharashtra 440010
Sign & Stamp :

Date: 23rd Jun 2021

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (EXTC Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Date: 23rd Jun 2021

Witness 1: 23.06.21
Name: Dr. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

Witness 2: 23/06/21
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

Date :- 14/06/2021

Ref. No. :- MDBES/140621/01

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 14th Jun, 2021 Onwards for the next 3 years,

Between

MDB Electrosoft Pvt. Ltd., Amravati, a company incorporated and existing under the laws of India and having its registered office at Mudholkar Peth, Rajapeth, Ambadevi Road, Near Oswal Bhawan, Amravati 444601 represented by its **Director Mr. Mangesh D. Bharti, CEO & Founder** as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as **ExTC, PRPCOEM**) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its **Head of Department Dr. R. D. Ghongade** of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. MDB Electrosoft shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.

4. To carry out consultancy, Faculty Development program,Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.

5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.

6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from MDB Electrosoft.

7. Students and Faculties of ExTC, PRPCOEM can coordinate with MDB Electrosoft and benefit from Industry-Academic Partnership.

8. Students and faculties of ExTC, PRPCOEM coordinating with MDB Electrosoft shall get exposure in the areas namely, Embedded system,Communication system, automotive electronics and testing as indicated by MDB Electrosoft.

9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.

10. MDB Electrosoft will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. MDB Electrosoft will provide technical guidance to students and faculties to execute the projects successfully.

11. MDB Electrosoft shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide MDB Electrosoft with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of MDB Electrosoft for its marketing and promotional purposes indicating MDB Electrosoft as its Corporate/Technology/Industry Partner.

13. ExTC, PRPCOEM can take additional help of MDB Electrosoft to train their people on different technologies on commercial terms.

VALIDITY, RENEWAL and TERMINATION of the agreement:

• This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three year term and as per the terms and conditions as deemed fit at that time.

• MDB Electrosoft shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of MDB Electrosoft.

Either Party may by giving one-month written notice to the other party terminate this agreement.

MR. MANGESH D. BHARTI
(DIRECTOR)
MDB Electrosoft
AMRAVATI-444601
Sign & Stamp :

MDB Electrosoft Pvt. Ltd.
MBharati
Director

Date: 14th Jun 2021

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (EXTC Dept.)
...Pote (Patil) College of Engg. & Management
Amravati.

Date: 14th Jun 2021

Witness 1:
Name: Prof. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

14.06.21

Witness 2:
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

14/06/2021

Spaarta Soft Technology Solutions,14/15,Jagtap Dairy Road, Rahatni, PUNE- 411017.
www.spaartasoft.com
Mobile: +91 - 9225569060

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 13th Jun 2018 Onwards for the next 3 years

Between

Spaarta Soft Technology Solutions, Pune, a company incorporated and existing under the laws of India and having its registered office at 14/15,Jaglap Dairy Road, Rahatni, PUNE- 411017 represented by its **Director Mr. Shrikant Atkarne** as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as **ExTC, PRPCOEM**) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its **Head of Department Dr. R. D. Ghongade** of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. Spaarta Soft Technology Solutions shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of VLSI, Open source technology, Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.
4. To carry out consultancy, Faculty Development program,Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.
5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.
6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from Spaarta Soft Technology Solutions.
7. Students and Faculties of ExTC, PRPCOEM can coordinate with Spaarta Soft Technology Solutions and benefit from Industry-Academic Partnership.

8. Students and faculties of ExTC, PRPCOEM coordinating with Spaarta Soft Technology Solutions shall get exposure in the areas namely, Embedded system,Communication system, automotive electronics and testing as indicated by Spaarta Soft Technology Solutions.

9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.

10. Spaarta Soft Technology Solutions will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. Spaarta Soft Technology Solutions will provide technical guidance to students and faculties to execute the projects successfully.

11. Spaarta Soft Technology Solutions shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide Spaarta Soft Technology Solutions with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of Spaarta Soft Technology Solutions for its marketing and promotional purposes indicating Spaarta Soft Technology Solutions as its Corporate/Technology/Industry Partner.

13. ExTC, PRPCOEM can take additional help of Spaarta Soft Technology Solutions to train their people on different technologies on commercial terms.

VALIDITY , RENEWAL and TERMINATION of the agreement:

• This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three year term and as per the terms and conditions as deemed fit at that time.

• Spaarta Soft Technology Solutions shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of Spaarta Soft Technology Solutions.

Either Party may by giving one-month written notice to the other party terminate this agreement.

MR. SHRIKAT ATKARNE
(DIRECTOR)
ELITE PROLABS
PUNE-600119
Sign & Stamp :

Spaarta Soft Technology Solutions Pune

Date: 13th Jun 2018

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (ExTC Dept.)
P.R. Pote (Patil) College of Engg. & Management

Date: 13th Jun 2018

Witness 1:
Name: Prof. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13.06.2018

Witness 2:
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13/06/2018

Ref. No. :- MDBES/130618/01

Date :- 13/06/2018

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 13th Jun, 2018 Onwards for the next 3 years,

Between

MDB Electrosoft, Amravati, a company incorporated and existing under the laws of India and having its registered office at Mudholkar Peth, Rajapeth, Ambadevi Road, Near Oswal Bhawan, Amravati 444601 represented by its **Director Mr. Mangesh D. Bharti, CEO & Founder** as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as **ExTC, PRPCOEM**) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its **Head of Department Dr. R. D. Ghongade** of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. MDB Electrosoft shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.

4. To carry out consultancy, Faculty Development program,Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.

5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.

6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from MDB Electrosoft.

7. Students and Faculties of ExTC, PRPCOEM can coordinate with MDB Electrosoft and benefit from Industry-Academic Partnership.

8. Students and faculties of ExTC, PRPCOEM coordinating with MDB Electrosoft shall get exposure in the areas namely, Embedded system,Communication system, automotive electronics and testing as indicated by MDB Electrosoft.

9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.

10. MDB Electrosoft will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. MDB Electrosoft will provide technical guidance to students and faculties to execute the projects successfully.

11. MDB Electrosoft shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide MDB Electrosoft with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of MDB Electrosoft for its marketing and promotional purposes indicating MDB Electrosoft as its Corporate/Technology/Industry Partner.

13. ExTC, PRPCOEM can take additional help of MDB Electrosoft to train their people on different technologies on commercial terms.

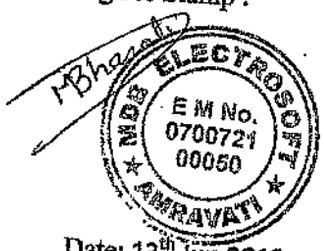
VALIDITY, RENEWAL and TERMINATION of the agreement:

• This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three year term and as per the terms and conditions as deemed fit at that time.

• MDB Electrosoft shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of MDB Electrosoft.

Either Party may by giving one-month written notice to the other party terminate thi agreement.

MR. MANGESH D. BHARTI
(DIRECTOR)
MDB Electrosoft
AMRAVATI-444601
Sign & Stamp :



Date: 13th Jun 2018

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (EXTC Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

Date: 13th Jun 2018

Witness 1:
Name: Prof. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13.06.18

Witness 2:
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13/6/2018

Webakruti
We are the change

Plot No. 254, Dongre Layout, Abhyankar Nagar, Nagpur (MH) India - 440010

+91-9021345794, +91-7387863841, +91-7387990061

Ref. No. WAK/2018-19/MOU/13

Date : 13/06/2018

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 13th Jun 2018 Onwards for the next 3 years

Between

Webakruti - Web Application Design & Software Development Company Nagpur India, a company incorporated and existing under the laws of India and having its registered office at 254, Dongre Layout, Abhyankar Nagar, Nagpur, Maharashtra 440010 represented by its Co-owner & Training Director, Mr. Harish Chopkar as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as **ExTC, PRPCOEM**) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its **Head of Department Dr. R. D. Ghongade** of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. Webakruti - Web Application Design & Software Development Company Nagpur shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of VLSI, Open source technology, Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.
4. To carry out consultancy, Faculty Development program,Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.
5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.

6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from Webakruti - Web Application Design & Software Development Company Nagpur.

7. Students and Faculties of ExTC, PRPCOEM can coordinate with Webakruti - Web Application Design & Software Development Company Nagpur and benefit from Industry-Academic Partnership.

8. Students and faculties of ExTC, PRPCOEM coordinating with Webakruti - Web Application Design & Software Development Company Nagpur shall get exposure in the areas namely, Embedded system,Communication system, automotive electronics and testing as indicated by Webakruti - Web Application Design & Software Development Company Nagpur.

9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.

10. Webakruti - Web Application Design & Software Development Company Nagpur will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. Webakruti - Web Application Design & Software Development Company Nagpur will provide technical guidance to students and faculties to execute the projects successfully.

11. Webakruti - Web Application Design & Software Development Company Nagpur shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide Webakruti - Web Application Design & Software Development Company Nagpur with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of Webakruti - Web Application Design & Software Development Company Nagpur for its marketing and promotional purposes indicating Webakruti - Web Application Design & Software Development Company Nagpur as its Corporate/Technology/Industry Partner.

13. ExTC, PRPCOEM can take additional help of Webakruti - Web Application Design & Software Development Company Nagpur to train their people on different technologies on commercial terms.

VALIDITY , RENEWAL and TERMINATION of the agreement:

• This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three year term and as per the terms and conditions as deemed fit at that time.

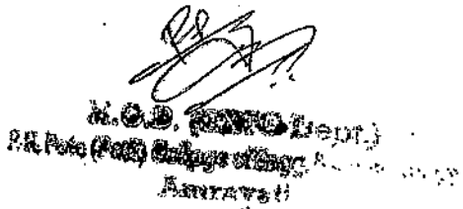
• Webakruti - Web Application Design & Software Development Company Nagpur shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of Webakruti - Web Application Design & Software Development Company Nagpur.

Either Party may by giving one-month written notice to the other party terminate this agreement.

MR. HARISH CHOPKAR
(Co-owner & Training Director)
Webakruti, Nagpur,
Maharashtra 440010
Sign & Stamp :

Date: 13th Jun 2018

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:



Date: 13th Jun 2018

Witness 1:
Name: Prof. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13.06.2018

Witness 2:
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13/06/2018

Date: 06/07/2018

No: IOC06072018-1

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is made and entered on the 6th July, 2018 Onwards for the next 3 years.

Between

ioCare, Pune a company incorporated and existing under the laws of India and having its registered office at H104, Radhika Park Sr No 22 Vadgaonsheri, Pune – 411014 Mobile: 9922908002 represented by its Director Mr. Rajendra Khope as first part.

And

Department of Electronics and Telecommunication Engineering at P.R.POTE (Patil) Education and Welfare Trust's College of Engineering and Management, located at Kathora road, Amravati – 444607, Maharashtra, India (herein after referred as ExTC, PRPCOEM) which shall, unless repugnant to the context, include its successors and assigns; and at present represented by its Head of Department Dr. R. D. Ghongade of the second part.

This Industry-Academic Memorandum of Understanding is for Mutual Benefit.

Now this Memorandum of Understanding witnessed as follows:

1. **ioCare,** Pune shall have access to ExTC, PRPCOEM faculties and Infrastructure for development of software/hardware.
2. To facilitate in-plant training programs and Industrial visits for students.
3. To provide departmental level support in the areas of VLSI, Open source technology, Enterprise Applications, Embedded systems, Autonomous Robot and Mobile Computing through R&D cell of ExTC department.
4. To carry out consultancy, Faculty Development program, Value Added Course and Guest lectures by eminent members from both the ends to enrich the knowledge.
5. To enhance the interaction between faculty and Industry persons through conferences and symposia for knowledge dissemination sharing of recent trends in ExTC department.
6. Students and Faculties of ExTC, PRPCOEM shall get access to Technology experts from ioCare, Pune.
7. Students and Faculties of ExTC, PRPCOEM can coordinate with ioCare, Pune and benefit from Industry-Academic Partnership.
8. Students and faculties of ExTC, PRPCOEM coordinating with ioCare, Pune shall get exposure in the areas namely, Embedded system, Communication system, automotive electronics and testing as indicated by ioCare, Pune.
9. To conduct training program for the students in various technologies to upgrade their technical skills as per the industry requirement at reasonable cost.
10. **ioCare,** Pune will provide their ideas and design to ExTC, PRPCOEM to execute the projects in house. ioCare will provide technical guidance to students and faculties to execute the projects successfully.
11. **ioCare** shall be the technology partner to ExTC, PRPCOEM, thus rendering additional value to ExTC, PRPCOEM. ExTC, PRPCOEM shall provide ioCare with value additions as may be required by this MoU.

12. ExTC, PRPCOEM can reproduce/utilize the logo of ioCare, Pune for its marketing and promotional purposes indicating ioCare, Pune as its Corporate/Technology/Industry Partner.
13. ExTC, PRPCOEM can take additional help of **ioCare**, Pune to train their people on different technologies on commercial terms.

VALIDITY, RENEWAL and TERMINATION of the agreement:

- This agreement is valid for a period of three years from the date of this agreement. This agreement shall be renewed on the expiry of three-year term and as per the terms and conditions as deemed fit at that time.
- **ioCare,** Pune shall approach ExTC, PRPCOEM for renewal of this agreement two months in advance before the expiry of this agreement. ExTC, PRPCOEM shall have the right to renew or reject the renewal proposal of **ioCare**, Pune.

Either Party may by giving one-month written notice to the other party terminate this agreement.

MR. RAJENDRA KHOPE
(Founder & CEO)
ioCare, Pune
PUNE-411014
Sign & Stamp:

Date: 6th July 2018

ioCare
H104, Radhika Park
Vadgaonsheri, 411014
PUNE

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (ExTC Engg.)

Date: 6th July 2018

Witness 1:
Name: Prof. G. D. Dalvi
Designation: Asst. Prof.
Organization: P. R. Pote COEM,
Signature with Date

06.07.2018

Witness 2:
Name: Prof. U. W. Hore
Designation: Asst. Prof.
Organization: P. R. Pote COEM,
Signature with Date

06/07/2018

MEMORANDUM OF UNDERSTANDING

BETWEEN

M.S.E.D.C.L, Institute of Training & Safety
Eklahare, Nashik-422 105

AND

Department of Electrical Engineering
P. R. Pote Patil Education & Welfare Trust's
Group of Institutes, College of Engineering & Management
Pote Estate, Pote Patil Road, Kathora, Amravati
Tel.- 0721-2530342,44
Fax — 0721-2530341
Email- prpotepatilcollege@gmail.com, website- www.prpcem.org

MoU

Whereas, **Department of Electrical Engineering, P. R. Pote Patil College of Engineering & Management Pote Estate, Pote Patil Road, Kathora, Amravati.**

- **Requisite parameters** - ... Quality technical education is imparted to the students in the area of various branches of Engineering. The Institute offers testing consultancy and training services in the area of electrical design, power quality, condition monitoring, energy management an audit, fabrication, civil construction, Plumbing, Surveying, Quality Testing, Turning, welding, ICT, Automation and etc.

And

Whereas, **Maharashtra State Electricity Distribution Company Limited (MSEDCL)**, also known as MAHAVITARAN is engaged in supplies electricity to a 2.30 core consumers all over Maharashtra. As the largest public sector Electricity Distribution Company in the State and in Asia, Mahavitaran plays an important role in the power scenario of Maharashtra. Primary function on MSEDCL is to develop and maintain efficient, co-ordinate and economical distribution system and providing quality electric supply to consumers. It is necessary to inculcate exceptional leadership, professional competencies, commercial acumen, team building, changing attitude, developing work culture and enhancing safety standard among the work force.

As per organization training Policy, the various training activities carried out in our Institute.

The Department of Training and Safety, has situated in serene atmosphere at Eklahare, training arm of MSEDCL, is accredited by **Central electricity Authority (CEA) "A" grade under Ministry of Power, Government of India**. It imparts Residential Orientation; Induction & Need based Training to Engineers, Staff from Human Resources, Finance & Account cell and vigilance & legal cell.

There are four. Regional Training Centers at Nashik, Aurangabad, Sangli & Amravati and there are 25 Small Training Centers at district level for conduction of one day Safety Seminar for employees and Public for Safety Awareness.

Under the National Training Program, the Department of Training & Safety is also a Under the partner- training institute recognized by Power Finance Corporation (PFC) and Rural Electrification Corporation (REC). The Memorandum of Agreement (MoA) made between REC and institute of Training & Safety, MSEDCL for conduct of C&D employees training progr during 2013-2017.

Department of Electrical Engineering
PRPCEM
Amravati

SCOPE OF THE MOU

This MOU Details the modalities and general condition regarding collaboration between **Department of Electrical Engineering, P. R. Pote (Patil) College of Engineering & Management, Kathora Road,, Amravati.** and **M.S.E.D.C.L**, Institute of Training. Safety, for enhancing, the availability of highly qualified manpower in the areas of Electrical without any prejudice to prevailing rules and regulations in **M.S.E.D.C.L** Institute of Training & safety. The areas cooperation can be extended through mutual consent.

SCOPE AND TERMS OF INTERACTIONS

Both **P. R. Pote (Patil) College of Engineering & Management, Amravati** and **M.S.E.D.C.L,** Institute of Training & safety shall encourage interactions between the Engineers, Research fellows, faculty members and students of both the organizations through the following arrangements:

a) Exchange of personnel through deputation for special subject periods.

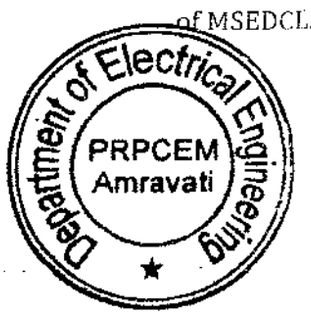
b) Organization of joint conferences and seminars, Industrial visits, Expert lectures etc Monitor process of organizing industry based projects and thesis for graduate & postgraduate students.

c) Practical training of **Dept. of Electrical Engineering, P. R. Pote (Patil) College of Engineering & Management, Amravati** college of Students/Staff at M.S.E.D.C.L, Institute of Training & safety.

d) MSEDCL may request to design a Course or Courses to enhance quality and performance of its employees. Such Courses maybe run at any mutually convenient premises.

e) MSEDCL may seek assistance/guidance of **Deprtment of Electrical Engineering, P. R. Pote (Patil) College of Engineering & Management, Amravati** Faculty members/ introduce/process modification, modernization, trouble shooting, etc.

f) **PRPCEM & MSEDCL** would arrange discussion sessions for the staff and students, which will help to design its Syllabus, Vision & Mission of the Institute & Departments, Program Objectives, Course Objectives according to the current requirement of the MSEDCL, as well as design various certificates and diploma courses for the requirement of MSEDCL.



SHARING OF FACILITIES

a) **Dept. of Electrical Engineering, P.R.Pote (Patil) College of Engineering** and **MSEDCL** shall make provisions to share their respective important R&D facilities & Infrastructure in order to promote academic & research interaction in the area of co-operation

b) **P. R. Pote (Patil) College of Engineering & Management, Amravati** and **MSEDCL** shall provide access to the library facilities to scientists' members of faculty and students as per the prevailing rules an norms in the respective institutes.

CO-ORDINATION OF THE PROGRAMME INCLUDING FINANCIAL ARRANGEMENTS

a) The collaborative program between **Dept. of Electrical Engineering, P. R. Pote (Patil) College of Engineering & Management, Amravati** and **MSEDCL** shall be coordinated by a coordination committee appointed by both the Institutes.

b) The expenses i.e. cost of Travelling Allowances, Dearness allowances and cost of stay of the faculty (If any) for expert lectures will be taken care at a discount rate as per the prevailing norms of the host Institute.

EFFECTIVE DATE AND DURATION OF MOU

a) This MOU shall be effective from the date of signing by competent authorities at both ends.

b) The duration of the MOU shall be for a period of five years from the effective date.

c) The MOU may be extended or terminated by a prior notice of not less than three months by either party or mutually specifically disclosing the intension to withdraw from MoU. However, termination of the MOU will not in any manner affect the interests of the students/faculty/scientists who have been admitted to pursue a program under the MOU.

d) Any clause or article of the MOU may be modified or amended by mutual agreement of **MSEDCL** and **P. R. Pote (Patil) College of Engineering & Management, Amravati.**

MISCELLANEOUS

a) The MOU is purely Knowledge sharing base.

b) Both **P. R. Pote (Patil) College of Engineering & Management, Amravati** and **MSEDCL** shall not, during the term of this Agreement directly or indirectly, solicit or offer employment or engagement to any of the personnel of other party.

c) After this agreement has been signed, the exercise shall be taken in co-ordination with each other.

Department of Electrical Engineering PRPCEM Amravati

IN WITNESS WHEREOF PARTIES HERE TO HAVE ENTERED INTO THIS AGREEMENT EFFECTIVE AS ON THE DATE AND YEAR FIRST WRITTEN ABOVE.

MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.

Principal
P.R.Pote (Patil) College of Engineering
& Management, Amravati

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

CGM
M.S.E.D.C.L
Institute of Training & Safety,
Eklahare, Nashik

Jayant S. Paikine
Additional Executive Engineer
M.S.E.D.C.L.
Regional Training Centre
Amravati.

Witness –

1. Prof. D.A. Shelhalkar

2. Prof. A.A. Ghute

Witness –

1. K.B. Panar
Dy. Executive Engineer (SLT)
Regional Training Centre
M.S.E.D.C.L., Amravati.

2. N.B. Gawande
Dy. Executive Engineer (SLT)
Regional Training Centre
M.S.E.D.C.L., Amravati.

Date: - 16/09/21

Department of Electrical Engineering
PRPCEM
Amravati

MEMORANDUM OF UNDERSTANDING (MOU)

BETWEEN

AUTOSYS INDORE

AND

DEPARTMENT OF ELECTRICAL ENGINEERING

P.R.POTE PATIL EDU. & WELF. TRUST'S , GROUP OF INSTITUTIONS, COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI

This Memorandum of Understanding (MOU) sets for the terms and understanding between the AutoSys Indore and the P.R.Pote Patil Edu. & Welf. Trust's, Group of Institutions, College of Engineering & Management, Amravati for organizing of Industrial Automation training/Summar Visits/Projects for Electrical Engineering Students.

Duration: This MOU will be for 5 years from the date 15/05/2017.

Background

We have conducted Industrial Automation Training Program for Final year BE students of Electrical and Electronics Branch in January 2016. This Training Program was very much appreciable by the team of PR POTE College. It has also fulfilled the motive of the College.

AutoSys Indore is a training institute which is involved in providing Automation training across institutions and business. As a part of our endeavor we have been over the years associated with a number of institutes like yours wherein we are providing PLC training to students and faculties.

Purpose

This MOU is prepared keeping in mind, to save the time & efforts of both the "AutoSys Indore" and "Department of Electrical Engineering, P.R. Pote (Patil) College of Engineering & Management (PRPCEM) " in regards to finalization of terms and conditions of training programs, any Industrial Visits, Summer training, Expert faculty sharing etc.

Course Details:

Course Code	Course Name	Course Details	Automation Brands/Make	Duration	Fee (in Rs.)
CCIA-5 (a)	Basic Industrial Automation Workshop	Electrical Basics, PLC and Electrical Drives (VFD)	Schneider, Siemens, ABB, Delta	1 Week (6 Days)	2500/- Per Student
CCIA-5 (b)	Advanced Industrial Automation Workshop	CCIA-5 (a) + SCADA, HMI, VFD, Industrial Network Communication of PLC with Drive, HMI and SCADA etc.	Allen-Bradley, Siemens , Mitsubishi, Schneider, ABB, Delta, Omron, Fatek, CECO	2 Weeks (12 Days)	4500/- Per student

AUTOSYS INDORE

H.O.D. (Elect. Dept.)
P R Pote (Patil) College of Engg. & Management
Amravati.

- CCIA- Certified Course in Industrial Automation
- Training Duration will be 6-7 Hrs./Day basis (Preferably College working Hours)
- As per your requirement, these workshops include complete support for Major Projects for all candidates.
- AutoSys Indore will provide placement support to all participation candidates.
- Course content is attached separately.

The Partners.

First Partner Name: AUTOSYS INDORE
Partner Representative: RAVINDRA SHARMA
Position: DIRECTOR
Address: 201-202, SAPPHIRE SQUARE, TOWER CHOURAHA, INDORE-452001 (M.P.)
Telephone: 0731-4069256
E-mail: info@autosysindore.com

Second Partner name: PR POTE PATIL EDU.& WELF. TRUST'S , GROUP OF INSTITUTIONS , COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI
Partner representative: DR. SANJAY B. WARKAD
Position: HOD IN ELECTRICAL ENGINEERING, PRPCEM
Address : Pote Estate, Kathora Road, Amravati.
Telephone : 0721-2530342, 2530344, 2530089, 3292969, 3294384
Fax : 0721-2530341
E-mail:info@prpatilcollege.org

Details of Understanding: The Partners, after due consideration of various aspects have arrived at the following understanding in respect of the training as AutoSys Indore mentioned

- The AutoSys Indore will share a calendar of trainings to be conducted and probable dates for the same. The dates can be modified to accommodate both parties working schedule.
- The AutoSys Indore is sharing details of every training program with Partners. Partners are bound to support / provide support for conducting trainings by providing suitable infrastructure at their institution.
- The Partners are bound to provide a minimum batch of 30 students for each session. Based on mutual understanding a list of participants can be shared between parties inclusive of faculty involved.
- The Partners are required to provide any kind of support for conducting the program especially in terms of infrastructure / stationary (on urgent basis only) etc.
- Partners will maintain the confidentiality of the training program; precautions would be taken for not disclosing the details of training and training materials directly or indirectly with any other training organization.
- The Partners will evolve a mechanism for exchange of experiences and expertise for mutual benefit of both the organizations.
- 50% payment should be advanced with P.O. in DD or Cheque in favour of "AutoSys Indore", payable at Indore, 50 % after completion of training.
- Charges for training will be enhanced by 10 % every year from year 2017.
- No other Institute can be introduced for Same Training till this MOU is in term or in valid duration.
- This training is free for all faculty members

AUTOSYS INDORE

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

- AutoSys Indore will not charge for Placement Support of student.
- If both partners are satisfied with this arrangement and training programs, the MOU term can be extended with mutual discussion and consent.
- AutoSys Indore is not bonded for providing any fund to the college from any Training Program.
- At least one Training Program should be conducted every year.
- During Training AutoSys Indore will provided following materials;
    - Certificate to all participating candidates.
    - Note book for each student.
    - Free software CD of most leading of the company for practice (DEMO).
    - Study material of all products.

Date of Effect

This Memorandum of Understanding will come into effect on the date of signature and will remain in force until either side delivers written notification to the other of its intention to terminate the Memorandum, in which case it will terminate three months after the receipt of such a notification.

MODIFICATION

The MOU may be amended by mutual consent through an exchange of correspondences between the two Partners.

Feedback:

At each stage of training "AutoSys Indore" and "PR POTE College" both will take the feedback form from all candidates those will be attending the training. This Record will evaluate effectiveness and adherence to the MOU.

Further Assistance:

Time to time "AutoSys Indore" will take efforts for student's placement, Summer training in concerned industries, facilitate projects in the department and expert talks etc. This Record will evaluate effectiveness and adherence to the MOU.

SIGNATURES

AUTOSYS INDORE

Date: 13-05-2017

(First Partner signature)
(Shri Ravindra Sharma, AUTOSYS INDORE, Director)

Date: 15-05-2017

(Second Partner signature)
(Dr. S. B. Warkad, PRPCEM, Head of Department)

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

MEMORANDUM OF UNDERSTANDING (MOU)
BETWEEN
NATIONAL ELECTRICAL INDUSTRIES, AMRAVATI
AND
DEPARTMENT OF ELECTRICAL ENGINEERING
P.R.POTE PATIL EDU. & WELF. TRUST'S , GROUP OF INSTITUTIONS,
COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI

This Memorandum of Understanding (MOU) sets for the terms and understanding between the Kothari Power Systems and the P.R.Pote Patil Edu. & Welf. Trust's, Group of Institutions, College of Engineering & Management, Amravati for organizing of Industrial Visits /Summer training /Projects for Electrical Engineering Students.

Duration: This MOU will be for 5 years from the date 15/09/2021.

Background

We have conducted on site training Program for Final year BE students of Electrical Engineering Branch at Kothari power systems, Amravati in june 2015. This Training Program was very much appreciable by the team of PR POTE College. It has also fulfilled the motive of the College.
National Electrical Industries, Amravati is an Panel manufacturing company which is involved in substation installations and networking of the distribution power supply. As a part of our endeavor we have been over the years associated with a number of institutes like yours wherein we are providing solutions for networking of the distribution power supply.

Purpose

This MOU is prepared keeping in mind, to save the time & efforts of both the "**National Electrical Industries, Amravati**" and "Department of Electrical Engineering, P.R. Pote (Patil) College of Engineering & Management (PRPCEM) " in regards to finalization of terms and conditions of training programs, any Industrial Visits, Summer training, Expert faculty sharing etc.

- Encouraging engineers from industry to visit our Institution to deliver lectures.
- Participation of experts from industry in curriculum development.
- Arranging visits of staff members and students to your industry and referred industries for study and discussions
- Joint research programmes and field studies by faculty, students and people from your industry.
- Visits of industry executives and practicing engineers to the Institute for seeing research work and laboratories, discussions and delivering lectures on industrial practices, trends and experiences.
- B.E. projects/dissertation work in industries under joint guidance of the faculty and experts from industry.
- Short-term assignment to students in industry

The Partners.

First Partner Name: National Electrical Industries, Amravati
Partner Representative : Junaid Shaikh
Position: Partner
Address: Plot No. A-40, MIDC, Amravati
Telephone: 9975000737
E-mail: junaid9021@gmail.com

Second Partner name: PR POTE PATIL EDU.& WELF. TRUST'S , GROUP OF INSTITUTIONS , COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI
Partner representative: DR. SANJAY B. WARKAD
Position: HOD IN ELECTRICAL ENGINEERING, PRPCEM
Address : Pote Estate, Kathora Road, Amravati.
Telephone : 0721-2530342, 2530344, 2530089, 3292969, 3294384
Fax : 0721-2530341
E-mail:info@prpatilcollege.org

Details of Understanding: The Partners, after due consideration of various aspects have arrived at the following understanding in respect of the training as **National Electrical Industries, Amravati** mentioned

- National Electrical Industries, Amravati will share a calendar of trainings to be conducted and probable dates for the same. The dates can be modified to accommodate both parties working schedule.
- National Electrical Industries, Amravati is sharing details of every training program with Partners. Partners are bound to support / provide support for conducting trainings by providing suitable infrastructure at their institution.
- The Partners are bound to provide a minimum batch of 30 students for each session. Based on mutual understanding a list of participants can be shared between parties inclusive of faculty involved.
- The Partners are required to provide any kind of support for conducting the program especially in terms of infrastructure / stationary (on urgent basis only) etc.
- Partners will maintain the confidentiality of the training program; precautions would be taken for not disclosing the details of training and training materials directly or indirectly with any other training organization.
- The Partners will evolve a mechanism for exchange of experiences and expertise for mutual benefit of both the organizations.
- National Electrical Industries, Amravati will not charge for Summer Training of students.
- If both partners are satisfied with this arrangement and training programs, the MOU term can be extended with mutual discussion and consent.
- National Electrical Industries, Amravati is not bonded for providing any fund to the college from any Training Program.
- At least one Training Program should be conducted every year.

Date of Effect

This Memorandum of Understanding will come into effect on the date of signature and will remain in force until either side delivers written notification to the other of its intention to terminate the Memorandum, in which case it will terminate three months after the receipt of such a notification.

MODIFICATION

The MOU may be amended by mutual consent through an exchange of correspondences between the two Partners.

Feedback:

At each stage of training "**National Electrical Industries, Amravati**" and "PR POTE College" both will take the feedback from all candidates those will be attending the training. This Record will evaluate effectiveness and adherence to the MOU.

Further Assistance:

Time to time "**National Electrical Industries, Amravati**" will take efforts for student's, Summer training in concerned industries, facilitate projects in the department and expert talks etc. This Record will evaluate effectiveness and adherence to the MOU.

SIGNATURES

Date: 16/09/2021

(First Partner signature)
(Shri Junaid Shaikh, **National Electrical Industries, Amravati**, Director)

Date: 16/09/2021

(Second Partner signature)
(Prof.D.A. Shahakar, PRPCEM, Head of Department)

authority requests the recipient to disclose the Confidential Information or the recipient must disclose it pursuant to applicable laws.

Miscellaneous:

If any term of this MOU is or becomes invalid in total or in part, this shall not have any effect on the validity of the remaining terms of this MOU. In such a case, the parties shall cooperate to agree on a new provision that is as close to the invalid provision in economic terms as legally admissible.
All terms agreed between kSPL and relating to the subject of this MOU has been recorded in writing. There are no further oral provisions made. Any amendment to this MOU must be made in writing to be valid. Any waiver of this written form requirement must be made in writing.

For kWatt Solutions Pvt. Ltd.

Authorized Signatory
Director

kWatt Solutions Private Limited Mumbai

Representative Name
Mr. Yajas Modi
(Assistant Marketing Manager)

For P.R.Pote (Patil) College of Engineering & Management, Amravati

Authorized Signatory
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P.R. Pote (Patil) Edu. & Welf. Trust Group of Inst. Amravati Code-1107

Prof. D.A. Shahakar
(HOD Electrical Engineering)
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Effective Date and Term:
The MOU is effective from 15th January 2021 to 14th January 2022 for a period of 1 year.

Confidentiality:

The parties will disclose information of both commercial and technical nature. The information will be disclosed orally, on tangible data or information carriers (e. g. written documents or drawings), electronically (e. g. in the form of electronic files or programs) or by submitting objects (e. g. machinery, mechanical or electronic components or assemblies). This information may contain trade secrets of significant business importance. This information is considered confidential and will be referred to as "Confidential Information" in the following.

kSPL and shall not use the disclosed Confidential Information other than for carrying out the purpose of this MoU. In particular, they agree not to communicate or disclose the Confidential Information to any third party, use the Confidential Information as a subject for developments of their own, and not to use the Confidential Information to enhance their own products, use the Confidential Information as the subject of applications for intellectual property rights and use the Confidential Information to oppose applications for intellectual property rights of the disclosing party. Furthermore, the parties agree to treat the content of this MoU as confidential towards any other party.

kSPL and shall make accessible Confidential Information (in particular copies of written documents containing Confidential Information and Confidential Information stored on data carriers or submitted objects) only to those employees and consultants

who are involved in implementing the purpose of this MoU and need the Confidential Information for carrying out their associated tasks.

On these persons the secrecy obligations of this Confidentiality Agreement shall be imposed, even beyond their employment or contractual relationship.

The obligation of confidentiality and restrictions of use no longer apply if and as soon as the Confidential Information is or becomes public knowledge without breach of this Confidentiality Agreement (including the disclosure by the disclosing party to a third party without obligation of confidentiality) or the recipient can prove to have been in possession of the Confidential Information prior to receiving the information from the disclosing party; in this case, the recipient should inform the disclosing party of such prior knowledge, or the Confidential Information has lawfully been disclosed to the recipient by a third party without obligation to treat the information as confidential, or the recipient realized or acquired the Confidential Information independently of the disclosing party, or a court or an administrative or government

Kwan Solutions Private Limited Mumbai

Purpose of this MEMORANDUM OF UNDERSTANDING

To enhance the quality of educational experience for students, researchers as well as faculties.

To create awareness and to encourage students for innovation.

To expertise people in the field of upcoming Solar generations

Make skilled engineers for huge careers opportunities in the different fields.

Share new research and developments, Innovations, Applications, Career opportunities

Essential Terms of MOU:

Solar PV Technology with PVsyst Training Program

College name will arrange following training program for students which will be conducted and performed by KSPL.

Scope of Work for Solar Training

- Mode of training will be Online, kSPL will be sending a joining link to the college.
- The Finance for this Solar PV Technology course for the students shall be taken care by college themselves.
- In this 1 year KSPL will be conducting 2 sessions with P.R.Pote (Patil) College of Engineering and Management & the commercial would be 20,000/- INR for entire 1 year.
- Payment shall be transferred from college to KSPL through NEFT before training starts.
- In 1 Online training session 95 to 97 students will be allowed.
- Before 1st Online course College will transfer 10,000/- to KSPL and rest will be transferred later when 2nd Online course will be decided accordingly
- Here is the mentioned bank details

Find our New bank details of Bank of Baroda for your reference-

Name - kWatt Solutions Private Limited

A/C No- 70080500000057

IFSC Code- BARB0DBBMMO

MICR Code- 400012217

Bank Name- Bank Of Baroda

Branch address - Bank Of Baroda Mumbai Main Office,

D.17 Horniman Circle Nanji Building 400023

MEMORANDUM OF UNDERSTANDING

Between

kWatt Solutions Pvt. Ltd

Eastern Business District, Lal Bahadur Shastri Road, Bhandup West,
Mumbai, Maharashtra 400078
Registered under the companies
Act, 1956(No. 1 of 1956)

(Referred to as "kSPL "in the following)

And

P.R.Pote (Patil) College of Engineering and Management

Kathora Road, Near Gajanan Township, Amravati 444602

Together referred to as "the parties"

Preamble:

KWatt SOLUTIONS PVT. LTD. (kSPL): Incubated with Society for Innovation & Entrepreneurship (SINE), IIT-Bombay that perform designing, engineering, installation and after-sales service of solar laboratory systems, solar energy products and other energy saving solutions, customized for specific applications (domestic to commercial) and training to the students and faculties in Solar energy field.

P.R.Pote (Patil) College of Engineering and Management: Group of Educational Institutes Amravati, is a foremost name in higher education in Maharashtra. Since its inception, the trust has been successfully conducting undergraduate and post graduate courses in emerging areas. It has 10 institutes under one roof. The Group offers undergraduate as well as post graduate courses in various disciplines of Engineering, Management and Technology. Various courses offered by the Group include ME, BE, MBA, MCA, Phahmacy, Architecture, Agriculture, B. Arch, B.Ed., CBSE Schooling, Polytechnic. By the blessings of Shri Sant Gajanan Maharaj, We aim at developing a pursuit of knowledge in Students, commitment to Economic, Social &Cultural uplifting of masses. The Institute highly believes in nurturing ethics and moral values in students. The P. R. Pote (Patil) Group has its branches at Amravati & Talegaon. We realize that education is the basis for the complete development of individual and for this purpose we have dedicated teaching staff, Digital Classrooms, Sophisticated Equipments, Wi-Fi campus, Finishing School, Placement Cell, State-of-Art Auditorium, Well Equipped Laboratories, Classrooms, International Quality.

kWatt Solutions Private Limited Mumbai

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.3 Curriculum Enrichment

1.3.3	Number of students undertaking project work/field work/ internships

Criteria-1 Curricular Aspects

1.3.3

Contents

Details of Internship in 2020-2021

Sr.No	Name of Student	Title	company	duration
1	Nikhil Tayade	Data Science With Python	Verzeo technologies	1.08/2020 to 1/10/2020
2	Samiksha R. Bhange	Web Development	Imagine scripts Pvt.Ltd	-
3	Mona Wanve	Data Analytics consulting	Forage technologies	
4	Aarti Ghule	Core Java	Makryto Innovations Pvt. Ltd	22-aug-30 sept
5	Aarti Ghule	C++	Makryto Innovations Pvt. Ltd	1-jul 2020 to 30 july 2020
6	Sanjogita Mishra	Industrial training	Ultra tech CementPvt Ltd	24 jun 2020 to 23-7-2020
7	Arpit Sontakke	Data Science	Verzeo technologies	1/06/2020 to 1/8/2020
8	Sushant Shrivastav	Software Training	A & H infotech, India Pvt. Ltd.	15 Apr-2021 to till date

HOD, CSE

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Details of NPTEL Certification in 2020-2021

Sr.No	Name of Student	Title	duration	semester
1	MonaWanve	Python for Data Science	4 week	Jan –Feb 2021
2	Rupali Rathi	Python for Data Science	4 week	Jan –Feb 2021
3	Vinod Joshi	Python for Data Science	4 week	Jan –Feb 2021
4	Sushant Shrivastav	Python for Data Science	4 week	Jan –Feb 2021
5	Rita Bhagat	Software Testing	4 week	Jan –Feb 2021
6	Prajwal Gawande	Python for Data Science	4 week	Jan –Feb 2021
7	Nikhil Tayade	Python for Data Science	4 week	Jan –Feb 2021
8	Riddhi Jajoo	Python for Data Science	4 week	Jan –Feb 2021
9	Sayyada Adeeba Ahmad	Python for Data Science	4 week	Jan –Feb 2021
10	Hrishikesh Bhuskade	Google Cloud Computing Foundations	8 week	Sep-Nov 2020
11	Kashif Shadab	Software Testing	4 week	Jan –Feb 2021
12	Mohd. Danish Abdul Majeed	Soft Skill Development	8 week	Jan- Mar 2021
13	Kaushik Rao	Programming in C++	8 week	Jan- Mar 2021
14	Vinod Joshi	Cloud Computing	8 Week	Sep-Nov 2020
15	Prajwal Gawande	Programming Data Structure and Algorithm using Python	8 week	Sep- Nov 2020
16	Mohd. Danish Abdul Majeed	Python for Data Science	4 week	Jan –Feb 2021

HOD, CSE

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

verzeo
learn here lead anywhere

Gold
Microsoft Partner
Microsoft

INTERNSHIP

CERTIFICATION

This is to certify that

Nikhil Tayade

has successfully completed an Internship Program Data Science with Python

from 01-08-2020 to 01-10-2020.

During the Internship, the student was found to be

dedicated, hardworking, and diligent.

22-10-2020

DATE

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati

VICE PRESIDENT - HR

CERTIFICATE OF INTERNSHIP

This is proudly given to

Ms. Samiksha R. Bhange

for completion of Web Development
Internship Training Program.

Kushal V. Dhole
Director

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

AcademicStuff
Powered By
ImagineScript Solutions Pvt. Ltd.

KPMG

Forage

Inspiring and empowering future professionals

Mona Wanve

Data Analytics Consulting Virtual Internship

Certificate of Completion

July 18th, 2021

Over the period of July 2020 to July 2021, Mona Wanve has completed practical task modules in

Data Quality Assessment
Data Insights
Data Insights and Presentation

Deborah Yates
National Managing Partner People Performance and Culture

Tom Brunskill
CEO, Co-Founder of Forage

For acpr

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

MAKRYTO INNOVATION PRIVATE LIMITED

CIN: U72900MH2017PTC297774

CERTIFICATE OF TRAINING

This certificate Is presented to

Arti Ghule

Has Successfully completed 5 Week Training Program on **"Core JAVA"** from dated 22 August 2020 to 30 September 2020.

Date : 05 October 2020

Mr. Ajinkya Mahajan
Director

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

MAKRYTO INNOVATION PRIVATE LIMITED

CIN: U72900MH2017PTC297774

CERTIFICATE OF TRAINING

This certificate is presented to

Arti Ghule

Has Successfully completed 1 Month Internship Training Program on "C++ Programming" from dated 01 July 2020 to 30 July 2020.

Date : 01 August 2020

Mr. Ajinkya Mahajan
Director

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

ADITYA BIRLA

UltraTech

Ref : P&A/2020/

Date : 07.08.2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Sanjogita Anil Mishra,** a 3rd Year **BE (Computer Science Engineering)** student of P R Pote (Patil) College of Engineering & Management, Amravati (MS), has done '**Industrial Training**' in the IT(Systems) Department of our Organization from **24.06.2020 to 23.07.2020**

She has successfully completed her Training.

For UltraTech Cement Limited
Unit: Manikgarh Cement Works-II

(Devendra Singh)
Vice President-HR

raut/SIP/inplant trg/212

H.O.D. (Comp...)
P.R.Pote (Patil) College of Engg. ...nagement
Amravati.

UltraTech CEMENT
The Engineer's Choice

UltraTech Cement Limited
(Manikgarh Cement Works II)
P.O. Gadchandur, Tah. Korpana,Dist. Chandrapur, Maharashtra, Pin -442908, Contact : +91 7173-246840/246550/246570
Registered Office : Ahura Centre, 'B' Wing, 2nd Floor, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
T: +91 22 6691 7800 / 6691 7801 | F: +91 22 6691 7901 | W: www.ultratechcement.com | CIN: L26940MH2000PLC128420

Entrepreneurship Cell,
IIT Kharagpur

verzeo
learn here lead anywhere

Gold
Microsoft Partner
Microsoft

CERTIFICATION

This is to certify that

Arpit Sontakke

has successfully completed an Internship Program Data Science

from 1/6/2020 to 1/8/2020.

During the Internship, the student was found to be

dedicated, hardworking, and diligent.

05-08-2020

UID

H.O.D. (Comp. Dept.)
K.K.Wagh (Poly) College of Engg. & Management

VICE PRESIDENT

A&H Infotech India Pvt. Ltd.

Mr. Sushant Shrivastav

July 28, 2021

Dear Sushant,

This is to certify that **Mr. Sushant Shrivastav** has worked in our organization as an Intern- Software Trainee.

Your service records are as follows:

Name	Sushant Shrivastav
Last Role Designation	Intern- Software Trainee
Last Role	Intern- Software Trainee
Date of Joining	April 15, 2021
Date of Leaving	July 21, 2021

We draw your attention to your continuing obligation of confidentiality with respect to any proprietary and confidential information of the company that you may have had accessed to during your internship.

Thank you for your contribution to A&H Infotech India Pvt. Ltd. and wishing you best for future endeavors!

For A&H Infotech India Pvt. Ltd.

Amit K Pankaj
Operation Head

A & H Infotech India Private Limited
Bangaluru
Authorised Signatory

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

A&H Infotech India Pvt. Ltd.
Main Office: *2nd Floor KLJ Tower North, B-5, District Centre, Netaji Subash Place, Wazirpur, New Delhi, 110034*
Tel: +91-11-66481002 | Fax: +91-11-66481003
Corporate Office: *3rd Floor, Site No 449, 17th Cross, 17th Main, Sector 4, HSR Layout, Bangalore* - 560102, India (*Tel: +91-80-4111 6139)*

CIN No: U72200DL2015PTC282508 http://ahinfotech.in

P. R. Pote (Patil) College of Engineering & Management, Amravati

Department of Computer Science & Engineering

Year 2020-2021

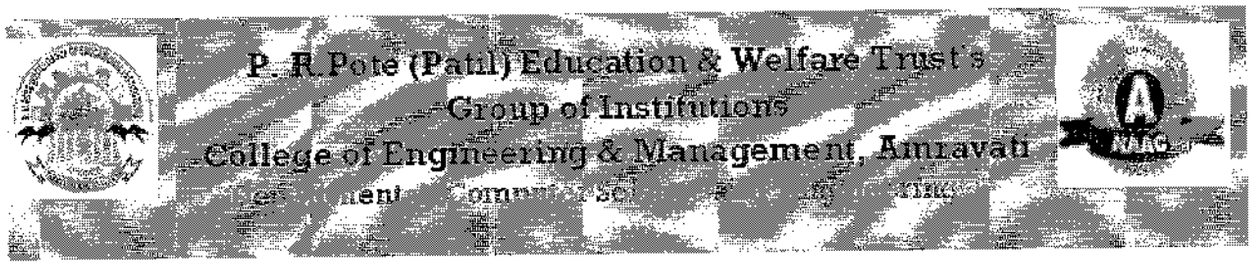
NAAC Criteria 1

Documents list for Point 1.2 (Academic Flexibility)

Sub Point No	Sr. No.	Document	Remarks
1.2.2	1	NPTEL certification Details	
1.2.3	2	NPTEL Certificates	

HOD, CSE

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg & Management
Amravati.



Details of NPTEL Certification in 2020-2021

Sr.No	Name of Student	Title	duration	semester
1	MonaWanve	Python for Data Science	4 week	Jan –Feb 2021
2	Rupali Rathi	Python for Data Science	4 week	Jan –Feb 2021
3	Vinod Joshi	Python for Data Science	4 week	Jan –Feb 2021
4	Sushant Shrivastav	Python for Data Science	4 week	Jan –Feb 2021
5	Rita Bhagat	Software Testing	4 week	Jan –Feb 2021
6	Prajwal Gawande	Python for Data Science	4 week	Jan –Feb 2021
7	Nikhil Tayade	Python for Data Science	4 week	Jan –Feb 2021
8	Riddhi Jajoo	Python for Data Science	4 week	Jan –Feb 2021
9	Sayyada Adeeba Ahmad	Python for Data Science	4 week	Jan –Feb 2021
10	Hrishikesh Bhuskade	Google Cloud Computing Foundations	8 week	Sep-Nov 2020
11	Kashif Shadab	Software Testing	4 week	Jan –Feb 2021
12	Mohd. Danish Abdul Majeed	Soft Skill Development	8 week	Jan- Mar 2021
13	Kaushik Rao	Programming in C++	8 week	Jan- Mar 2021
14	Vinod Joshi	Cloud Computing	8 Week	Sep-Nov 2020
15	Prajwal Gawande	Programming Data Structure and Algorithm using Python	8 week	Sep- Nov 2020
16	Mohd. Danish Abdul Majeed	Python for Data Science	4 week	Jan –Feb 2021

HOD, CSE

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://nptel.ac.in/noc/

Roll No: NPTEL21CS33S21080106

To
MONA SURESHRAO WANVE
AT POST MAHULI JAHAGIR 444901
MAHARASHTRA - 444901
PH. NO :9763337705

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

MONA SURESHRAO WANVE

for successfully completing the course

Python for Data Science

with a consolidated score of **45** %

Online Assignments	10/25	Programming Exam	15/25	Proctored Exam	20/50

Total number of candidates certified in this course: **1728**

Devendra Jalihal
Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Jan-Feb 2021
(4 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

Indian Institute of Technology Madras

FREE ONLINE EDUCATION swayam

Roll No: NPTEL21CS33S21080106

To validate and check scores: https://nptel.ac.in/noc

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://nptel.ac.in/noc/

Roll No: NPTEL21CS33S21080011

To
RUPALI YOGESHKUMAR RATHI
AMBIKA NAGAR
DARWHA
MAHARASHTRA - 445202
PH. NO :9398431183

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

RUPALI YOGESHKUMAR RATHI

for successfully completing the course

Python for Data Science

with a consolidated score of **69** %

Online Assignments	21.25/25	Programming Exam	25/25	Proctored Exam	23/50

Total number of candidates certified in this course: **1728**

Devendra Jalihal

Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Jan-Feb 2021
(4 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

Indian Institute of Technology Madras

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No:NPTEL21CS33S21080011

To validate and check scores: https://nptel.ac.in/noc

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg.& Management
Amravati.

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://nptel.ac.in/noc/

Roll No: NPTEL21CS33S11080088

To
VINOD NARAYAN JOSHI
"SHREE KRUPA", NEAR WAKEKAR HOSPITAL
BALAJI GALLI
JALGAON JAMOD
MAHARASHTRA - 443402
PH. NO :9665488554

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

VINOD NARAYAN JOSHI

for successfully completing the course

Python for Data Science

with a consolidated score of **67** %

Online Assignments	24.17/25	Programming Exam	23.25/25	Proctored Exam	20/50

Total number of candidates certified in this course: **1728**

Devendra Jalihal

Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Jan-Feb 2021
(4 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

Indian Institute of Technology Madras

Roll No: NPTEL21CS33S11080088 To validate and check scores: https://nptel.ac.in/noc

P R Pote Patil College of Engineering and Management, Amravati

Department of Mechanical Engineering, Industrial Training Record of Students 2020-21

Sr. No.	Name of Student	Training	Conducted by	From	To	Duration (Days)
1	Prajwal Deshmukh	Mechanical Work Training	Khandelwal Autowheels Pvt. Ltd. Akola	15-10-2020	15-01-2021	92
2	Tushar B Kogekar	Industrial Training	MSRTC Workshop, Amravati Depot, Amravati	11-02-2021	13-02-2021	3
3	Dipak D Umale			11-02-2021	13-02-2021	3
4	Om A Dongare			11-02-2021	13-02-2021	3
5	Abhishek Mohod			11-02-2021	13-02-2021	3
6	Mihir Wankhade			11-02-2021	13-02-2021	3
7	Sumit Taywade	Industrial Training at Manufacturing Department	Jadao Layland Pvt. Ltd. Amravati	05-04-2021	20-04-2021	15
8	Sumit Bamne			05-04-2021	20-04-2021	15
9	Ayush Madhapure			05-04-2021	20-04-2021	15
10	Prajwal Ingole			05-04-2021	20-04-2021	15
11	Yash Raut	Master Class on EV Design using Matlab	Pantech Prolabs India Pvt Ltd	07-06-2021	11-06-2021	5
12	Swaraj Dhote	Master Class on EV Design using Matlab	Pantech Prolabs India Pvt Ltd	07-06-2021	11-06-2021	5
13	Swapnil Suresh Nighot	Industrial Training Course	Chandrapur Super Thermal Power Station	01-07-2021	30-07-2021	30
14	Prajwal Kalpande	Training	F. CAD. Infotech	01-11-2020	07-12-2020	37

Incharge

HoD, Mechanical

H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

1.3.21

CERTIFICATE NO : PS-APSSDC-EV-JUNE-0914

Technology Beyond the Dreams

CERTIFICATE
OF PARTICIPATION

NAME : Mr.SWARAJ RAJENDRA DHOTE

COLLEGE : P.R.POTE COLLEGE OF ENGINEERING AND MANAGMENT OF AMRAVTI

has Successfully Completed

MASTER CLASS ON EV DESIGN USING MATLAB(5 DAYS)

at Pantech Prolabs India Pvt Ltd

From : JUNE 07,2021 to : JUNE 11,2021

M.MALAIYAPPAN
DIRECTOR
PANTECHSOLUTIONS

MAHA

[illegible]

[illegible] THERMAL POWER STATION, CHANDRAPUR

[illegible]

Certificate

[illegible]

This is to certify that

Mr./Miss Swapnil Suresh Nighot

Student from P. R. Pote college of Engineering and Management Amravati of VI Sem

has successfully completed Industrial Training at

Chandrapur Super Thermal Power Station

Chandrapur

From July to August

This certificate is issued to him / her for successfully completing of Industrial Training with satisfactory performance.

[illegible]
CHANDRAPUR

CHIEF ENGINEER
CSTPS, CHANDRAPUR

F.CAD. INFOTECH
Mahalaxmi Puja Complex, beside of Essar petrol pump,
kathora road Amravati,
Pawan fande- M.Tech[str],B.E.Civil , D.C.E, Dip.Int.Designing
M- 8275893500 , 9511850080 email – fcadcentre@gmail.com www.fcadacademy.com

EXPERIENCE CERTIFICATE

To whomsoever it May Concern

This is to certify that Mr/ Mrs/ Miss Prajwal Kalpande
has successfully completed internship under our firm from 1/11/2020 to 7/12/2020
In this period he /she has learned AUTOCAD 2020 [2D,3D]
MECHANICAL TOOLS, MACHINE PART PLANNING AND DESIGNING,

He/ she has completed project of MECHANICAL TOOLS 2D + 3D PLANNING AND DESIGNING, RENDERING,WALKTHROUGH.
He /She also visited JADHAW INDUSTRIES Amravati.

He/She has completed above work before and after college time and during Holidays.

We found him sincere, hardworking, technically sound and result oriented.
he /she worked
Well as part of a team during his /her tenure. We wish him all the best for his /her future.

Date : 7/12/2020.

Place : Amravati

Director
Pawan P.Fande
FCAD CONSTRUCTION
Reg. No – 175270031141644O
ENGINEERING CONSULTANCY TRAINING SERVICES
An ISO 9001:2015, MSME, IIE CERTIFIED CENTRE.

	P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati IQAC Cell

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.4 Feedback System

1.4.1	Institution obtains feedback on the syllabus and its transaction at the institution from the following stakeholders 1) Students 2) Teachers 3) Employers 4) Alumni

Contents

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Civil Engineering

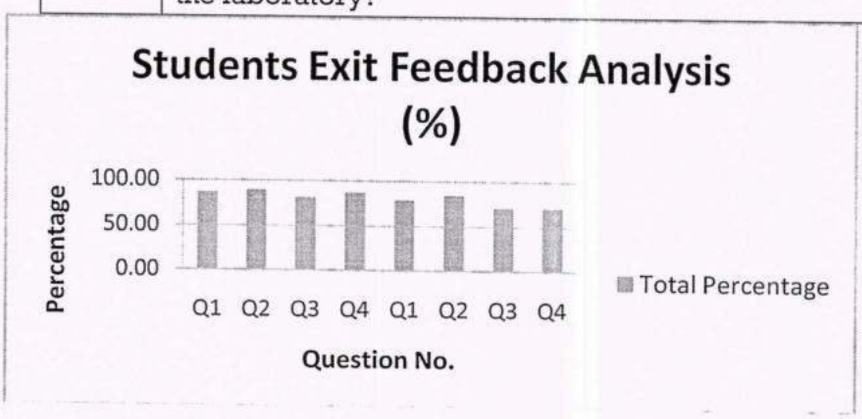
Session: 2020-21

Analysis of Students Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 15

Date of Analysis:

Sr. No	Particulars	% Feedback
1	The curriculum is up to date and relevant from the point of view of employability	86.67
2	The core courses offer an in-depth exposure to the subject	89.33
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	81.33
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	86.67
5	Rate the electives offered in relation to the technological advancements?	78.67
6	Content of the courses encourages extra learning/ self-learning.	84.00
7	Rate the percentage(Number) of courses having practical components?	70.67
8	Rate the domain used for Designing/ performing the experiments in the laboratory?	70.67



Overall observation: Satisfactory

Key suggestions given: ——

HOD

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020 – 21

Students Feedback on Curriculum (Design & Review of Syllabus)

Rate the Particulars by putting tick mark in appropriate cell.

Sr. No	Particulars	High	Moderate	Poor
1	The curriculum is up to date and relevant from the point of view of employability	✓		
2	The core courses offer an in-depth exposure to the subject	✓		
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	✓		
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	✓		
5	Rate the electives offered in relation to the technological advancements?	✓		
6	Content of the courses encourages extra learning/ self-learning.		✓	
7	Rate the percentage(Number) of courses having practical components?	✓		
8	Rate the domain used for Designing/ performing the experiments in the laboratory?			✓

Suggestions for further Improvement- (new courses, uncovered topics, obsolete topics, laboratory)

Anasone

Name & Signature of Student: Tejas Anasone

Department: Civil Engg Year & Semester: 4th (VIII Sem)

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020 - 21

Students Feedback on Curriculum (Design & Review of Syllabus)

Rate the Particulars by putting tick mark in appropriate cell.

Sr. No	Particulars	High	Moderate	Poor
1	The curriculum is up to date and relevant from the point of view of employability	✓		
2	The core courses offer an in-depth exposure to the subject	✓		
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	✓		
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	✓		
5	Rate the electives offered in relation to the technological advancements?		✓	
6	Content of the courses encourages extra learning/ self-learning.	✓		
7	Rate the percentage(Number) of courses having practical components?	✓		
8	Rate the domain used for Designing/ performing the experiments in the laboratory?			✓

Suggestions for further Improvement- (new courses, uncovered topics, obsolete topics, laboratory

Name & Signature of Student: Sohail Khan

Department: Civil Engg Year & Semester: 4th yr (8 sem)

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Civil Engineering

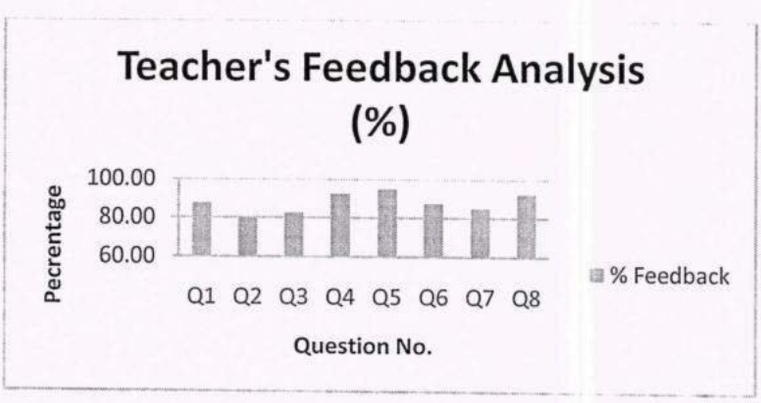
Session 2020-21

Analysis of Teachers Feedback on Curriculum

Total No of Sample collected: 16

Date of Analysis:

Sr.No	Particulars	% Feedback
1	The learning objectives are clear and appropriate to the program.	87.50
2	The curriculum and syllabus are well organized and suitable to the program.	80.00
3	The textbooks/ Reference Books are well suited to the course.	82.50
4	The system followed by the university for the design and development of curriculum is effective.	92.50
5	Provision to update curriculum time to time.	95.00
6	Rate the distribution of contact hours among the course components?	87.50
7	The curriculum has a good balance between theory and practical.	85.00
8	Rate the electives offered in relation to the technological advancements?	92.50



Overall observation: Satisfactory in all respects.

Key suggestions given: None

HOD **Dean Academics** **Principal**

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Teachers Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	The learning objectives are clear and appropriate to the program.	✓		
2	The curriculum and syllabus are well organized and suitable to the program.	✓		
3	The textbooks/ Reference Books are well suited to the course.	✓		
4	The system followed by the university for the design and development of curriculum is effective.	✓		
5	Provision to update curriculum time to time.	✓		
6	Rate the distribution of contact hours among the course components?	✓		
7	The curriculum has a good balance between theory and practical.		✓	
8	Rate the electives offered in relation to the technological advancements?	✓		

Suggestions for further Improvement-
(new courses, uncovered topics, obsolete topics, laboratory experiments, software etc.)

—

Name & Signature of Teacher: Dr. Sachin Saraf
Department: Civil Engineering

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Teachers Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	The learning objectives are clear and appropriate to the program.	✓		
2	The curriculum and syllabus are well organized and suitable to the program.	✓		
3	The textbooks/ Reference Books are well suited to the course.	✓		
4	The system followed by the university for the design and development of curriculum is effective.	✓		
5	Provision to update curriculum time to time.	✓		
6	Rate the distribution of contact hours among the course components?	✓		
7	The curriculum has a good balance between theory and practical.		✓	
8	Rate the electives offered in relation to the technological advancements?		✓	

Suggestions for further Improvement-
(new courses, uncovered topics, obsolete topics, laboratory experiments, software etc.)

No

Name & Signature of Teacher: Mr. V. S. Umap

Department: Civil Engineering

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Civil Engineering

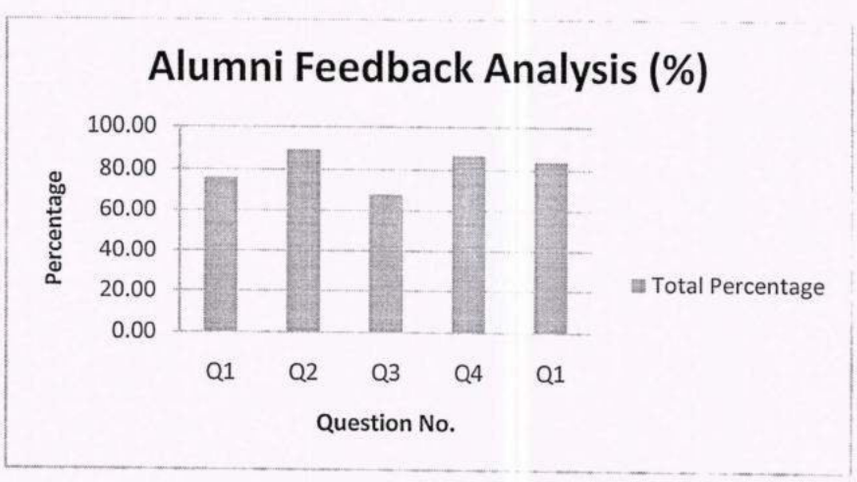
Session- 2020-21

Analysis of Alumni Feedback on Curriculum

Total No of Sample collected: 15

Date of Analysis:

Sr. No	Particulars	% Feedback
1	Curriculum meets pre-requisite and basic knowledge required for the career.	76.00
2	Use fullness of learning experience in career.	89.33
3	Electives offered in relation to the technological advancements.	68.00
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	86.67
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	84.00



Overall observation: Satisfactory

Key suggestions given: No.

HOD

Dean Academics

Principal

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020 - 21

Alumni Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	Curriculum meets pre-requisite and basic knowledge required for the career.	✓		
2	Use fullness of learning experience in career.	✓		
3	Electives offered in relation to the technological advancements.		✓	
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	✓		
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	✓		

Suggestions for further Improvement-

No.
Name & Signature of Alumni: Priya Sawarkar
Department: civil Engg.
Details of Employment:

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Alumni Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	Curriculum meets pre-requisite and basic knowledge required for the career.	✓		
2	Use fullness of learning experience in career.	✓		
3	Electives offered in relation to the technological advancements.	✓		
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	✓		
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.			✓

Suggestions for further Improvement-

No.

Name & Signature of Alumni: Mayur Ashok Pohankar

Department: civil

Details of Employment: —

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Employer Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	✓		
2	The graduate has an in-depth exposure to the core courses	✓		
3	The graduates have adequate practical exposure for undertaking real time projects			✓
4	The graduates have necessary soft skills and are successful team players.		✓	
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	✓		

Suggestions for further Improvement-

Name & Signature of the Employer:	Arun Utharwar
Designation:	Structural Designer
Name of Company:	Arun Utharwar & Asso.
Feedback pertaining to Employee (Name of Employee:	Akshay Patil)

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020 - 21

Employer Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No	Particulars	High	Moderate	Poor
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	✓		
2	The graduate has an in-depth exposure to the core courses	✓		
3	The graduates have adequate practical exposure for undertaking real time projects		✓	
4	The graduates have necessary soft skills and are successful team players.			✓
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	✓		

Suggestions for further Improvement-

Name & Signature of the Employer:	P.A. Tongse & R.S. Patil
Designation:	Owner
Name of Company:	Tongse & Patil (P. Ltd.
Feedback pertaining to Employee (Name of Employee:	Mohit Shende)

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Civil Engineering

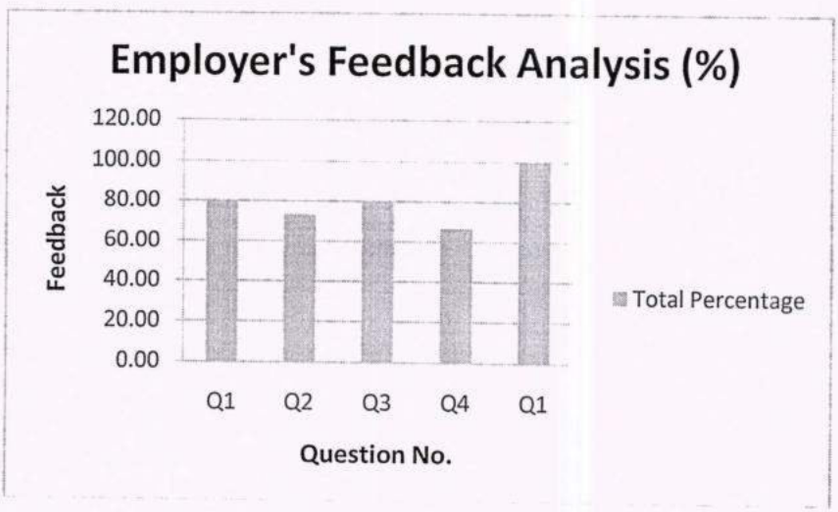
Session: 2020-21

Analysis of Employers Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 06

Date of Analysis:

Sr.No	Particulars	% Feedback
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	80.00
2	The graduate has an in-depth exposure to the core courses	73.33
3	The graduates have adequate practical exposure for undertaking real time projects	80.00
4	The graduates have necessary soft skills and are successful team players.	66.67
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	100.00



Overall observation: ———

Key suggestions given: Nil.

HOD

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Civil Engineering

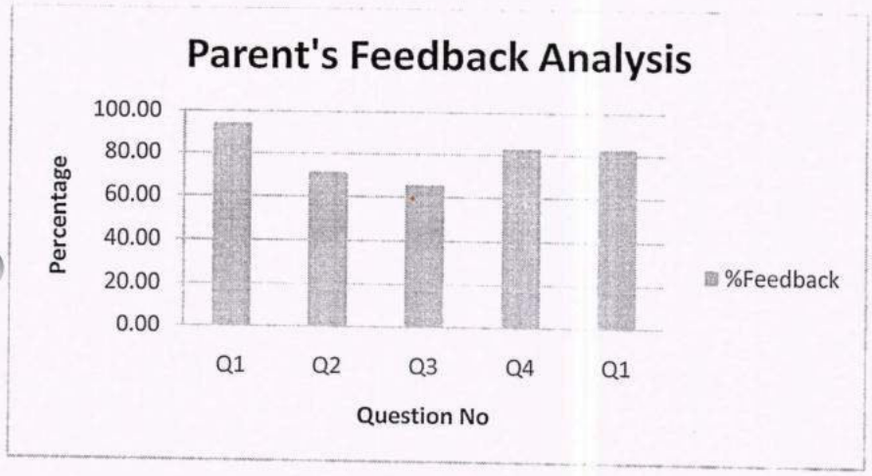
Session 2020-21

Analysis of Parents Feedback on Curriculum

Total No of Sample collected: 07

Date of Analysis:

Sr.No.	Particulars	% Feedback
1	Rate the learning experience gained by the ward Through curriculum of the course	94.29
2	Rate the competency of the curriculum with respect to other Universities	71.43
3	Rate the relevance of curriculum to the program	65.71
4	Rate the incorporation of recent changes of technology in the curriculum	82.86
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.	82.86



Overall observation: Satisfactory

Key suggestions given: ——

HOD

H.O.D. (Civil Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Parents Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No.	Particulars	High	Moderate	Poor
1	Rate the learning experience gained by the ward Through curriculum of the course	✓		
2	Rate the competency of the curriculum with respect to other Universities	✓		
3	Rate the relevance of curriculum to the program	✓		
4	Rate the incorporation of recent changes of technology in the curriculum			✓
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.		✓	

Suggestions for further Improvement-

Teaching Comunication is Veary good

Name & Signature of Parent: Indeejit Hiwse

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
IQAC Cell

Session 2020-21

Parents Feedback on Curriculum

Rate the Particulars by putting tick mark in appropriate cell.

Sr.No.	Particulars	High	Moderate	Poor
1	Rate the learning experience gained by the ward Through curriculum of the course	✓		
2	Rate the competency of the curriculum with respect to other Universities		✓	
3	Rate the relevance of curriculum to the program			✓
4	Rate the incorporation of recent changes of technology in the curriculum	✓		
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.	✓		

Suggestions for further Improvement-

online Teaching improvement & smooth conducta
Name & Signature of Parent: Dipak Gupta Gupta

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Computer Science and Engineering

Academic Session 2020-2021

1.4.1Structured feedback analysis obtained for the design and review of syllabus year wise

INDEX

Sr. No.	Particular
1	Analysis of Alumni Feedback
2	Analysis of Teachers Feedback
3	Analysis of Students feedback
4	Analysis of Employer feedback

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Computer Science and Engineering

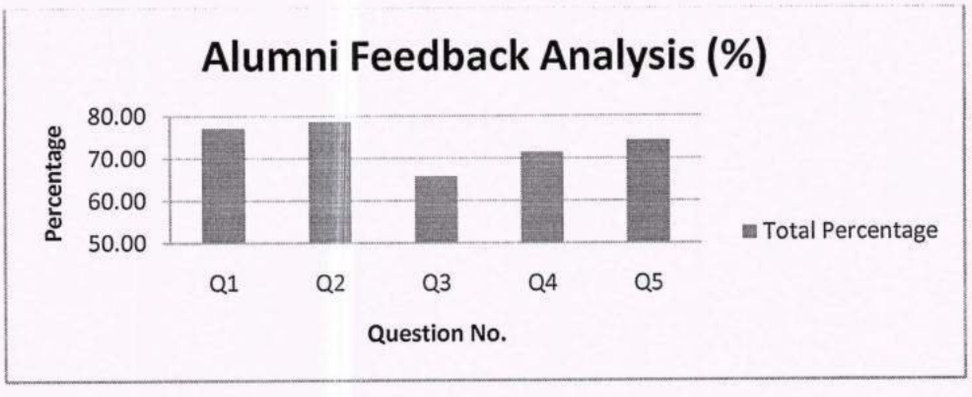
Academic Session- 2020-21

Analysis of Alumni Feedback on Curriculum

Total No of Sample collected: 28

Date of Analysis: 27/08/2021

Sr. No	Particulars	% Feedback
1	Curriculum meets pre-requisite and basic knowledge required for the career.	77.14
2	Use fullness of learning experience in career.	78.57
3	Electives offered in relation to the technological advancements.	65.71
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	71.43
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	74.29



Overall observation: Students were able to get job opportunities based on the curriculum but need some latest subjects to be taught

Key suggestions given: 1) Hands on industrial training & internships should be promoted
2) more practical orientation needed
3) New subjects and Motivational seminars should increase

HOD **Dean Academics** **Principal**

H.O.D. (C... ...t.)
P.R.Pote (Patil) Col... anagement

P. R. Pote (Patil)
College of Engineering & Manage...
Amravati.

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Computer Science and Engineering

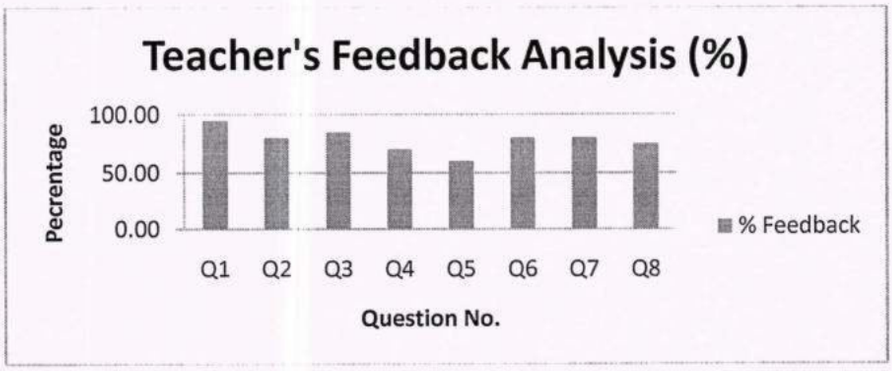
Academic Session 2019-20

Analysis of Teachers Feedback on Curriculum

Total No of Sample collected: 8

Date of Analysis: 28/7/2021

Sr.No	Particulars	% Feedback
1	The learning objectives are clear and appropriate to the program.	95.00
2	The curriculum and syllabus are well organized and suitable to the program.	80.00
3	The textbooks/ Reference Books are well suited to the course.	85.00
4	The system followed by the university for the design and development of curriculum is effective.	70.00
5	Provision to update curriculum time to time.	60.00
6	Rate the distribution of contact hours among the course components?	80.00
7	The curriculum has a good balance between theory and practical.	80.00
8	Rate the electives offered in relation to the technological advancements?	75.00



Overall observation: satisfied about contents objectives of subjects

Key suggestions given: 1) new subjects based on recent technologies must be included in syllabus
2) more focus should be given on practical implementations

HOD **Dean Academics** **Principal**

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

H.O.D. (Comp. Sc. & Engg.)
P.R.Pote (Patil) College of Engineering & Management
Amravati.

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Computer Science and Engineering

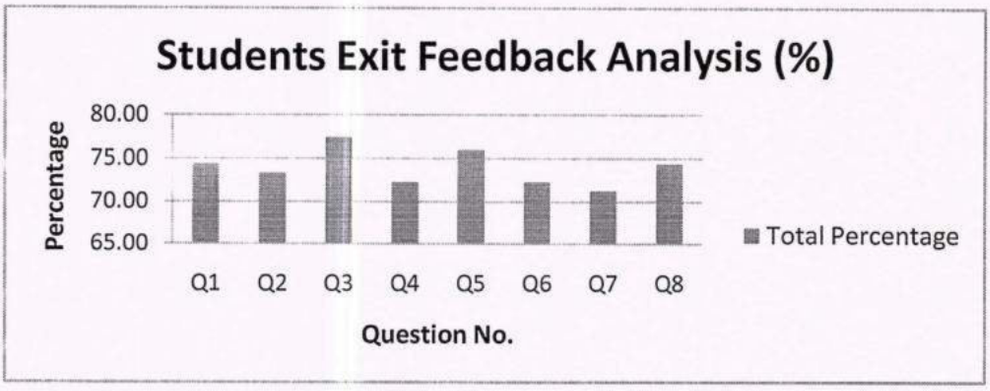
Academic Session: 2019-20

Analysis of Students Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 39

Date of Analysis: 25/07/2021

Sr. No	Particulars	% Feedback
1	The curriculum is up to date and relevant from the point of view of employability	74.36
2	The core courses offer an in-depth exposure to the subject	73.33
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	77.44
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	72.31
5	Rate the electives offered in relation to the technological advancements?	76.00
6	Content of the courses encourages extra learning/ self-learning.	72.31
7	Rate the percentage(Number) of courses having practical components?	71.28
8	Rate the domain used for Designing/ performing the experiments in the laboratory?	74.36



Overall observation: subject are satisfied with teaching of curriculum

Key suggestions given: 1. More Practical Approach Needed

2. More Organized Syllabus required

HOD

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engineering & Management
Amravati

Dean Academics

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

Principal

Principal
P.R. Pote (Patil) College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Computer Science and Engineering

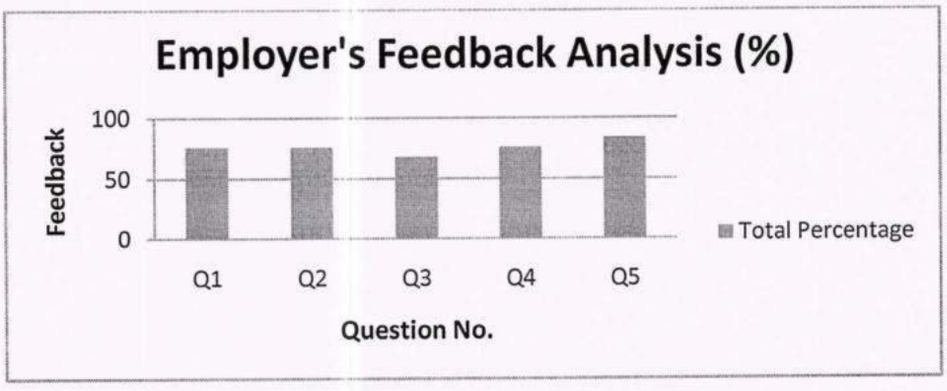
Academic Session: 2019-20

Analysis of Employers Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 5

Date of Analysis:07/08/2020

Sr.No	Particulars	% Feedback
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	76
2	The graduate has an in-depth exposure to the core courses	76
3	The graduates have adequate practical exposure for undertaking real time projects	68
4	The graduates have necessary soft skills and are successful team players.	76
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	84



Overall observation: Satisfactory

Key suggestions given : 1. New technologies need to be taught.

HOD **Dean Academics** **Principal**

H.O.D. (Comm. Engg.)
P.R. Pote (Patil) College of Engg. & Management
Amravati

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Electrical Engineering

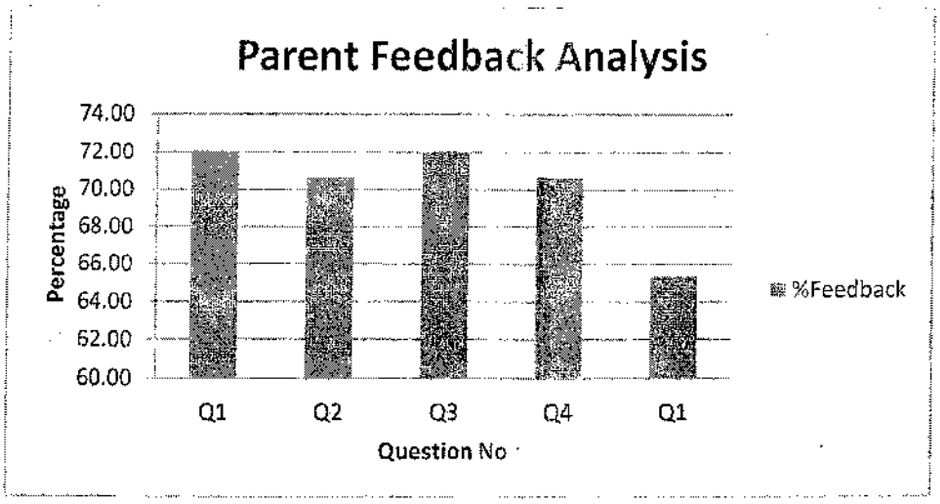
Session 2020-21

Analysis of Parents Feedback on Curriculum

Total No of Sample collected: 24

Date of Analysis: July 2021

Sr.No.	Particulars	% Feedback
1	Rate the learning experience gained by the ward Through curriculum of the course	72.00
2	Rate the competency of the curriculum with respect to other Universities	70.67
3	Rate the relevance of curriculum to the program	72.00
4	Rate the incorporation of recent changes of technology in the curriculum	70.67
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.	65.33



Overall observation: Many are satisfied with the curriculum.

Key suggestions given Some parents suggested to have curriculum as per the employers requirement.

HOD
H.O.D. (Elect. Dept.)
P. Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Electrical Engineering

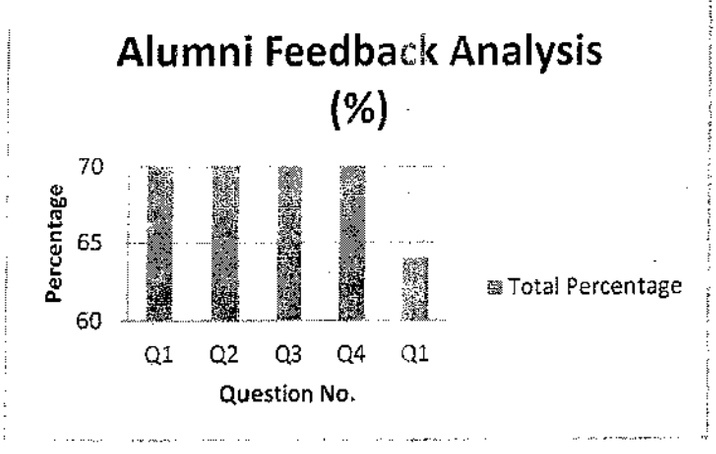
Session- 2020-21

Analysis of Alumni Feedback on Curriculum

Total No of Sample collected: 23

Date of Analysis:July 2021

Sr. No	Particulars	% Feedback
1	Curriculum meets pre-requisite and basic knowledge required for the career.	72.00
2	Use fullness of learning experience in career.	70.67
3	Electives offered in relation to the technological advancements.	72.00
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	70.67
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	65.33



Overall observation: Many are satisfied with the curriculum.

Key suggestions given: Some Alumni suggested to map the curriculum as per the industry requirement.

HOD
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Electrical Engineering

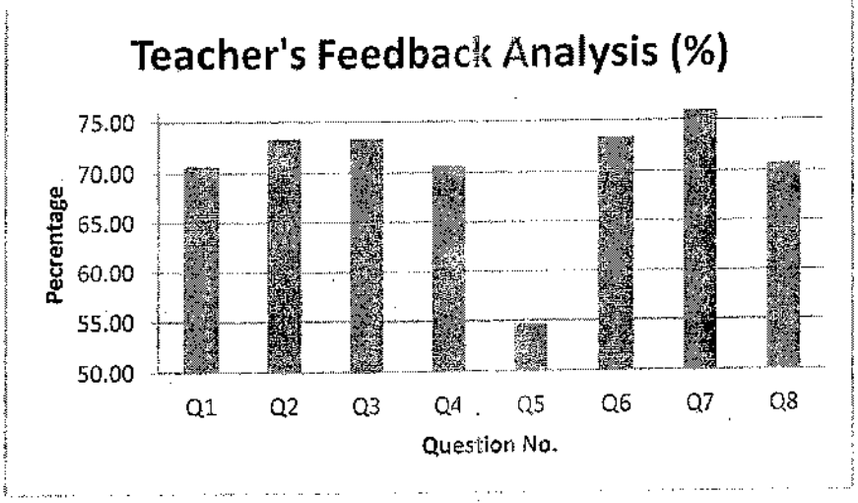
Session 2020-21

Analysis of Teachers Feedback on Curriculum

Total No of Sample collected: 15

Date of Analysis: July 2021

Sr.No	Particulars	% Feedback
1	The learning objectives are clear and appropriate to the program.	70.67
2	The curriculum and syllabus are well organized and suitable to the program.	73.33
3	The textbooks/ Reference Books are well suited to the course.	73.33
4	The system followed by the university for the design and development of curriculum is effective.	70.67
5	Provision to update curriculum time to time.	54.67
6	Rate the distribution of contact hours among the course components?	73.33
7	The curriculum has a good balance between theory and practical.	76.00
8	Rate the electives offered in relation to the technological advancements?	70.67



Overall observation Many Teachers are satisfied with the curriculum.
Key suggestions given: Some Teachers suggested design more practical based curriculum.

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Electrical Engineering

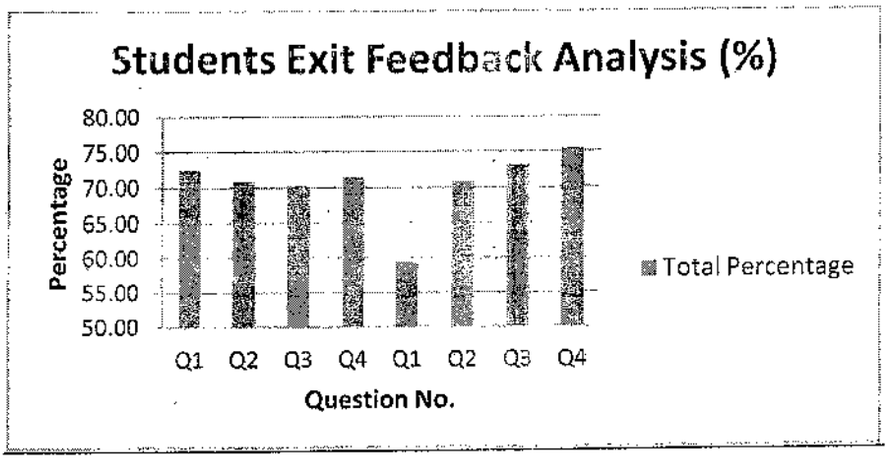
Session: 2020-21

Analysis of Students Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 32

Date of Analysis : July 2021

Sr. No	Particulars	% Feedback
1	The curriculum is up to date and relevant from the point of view of employability	72.50
2	The core courses offer an in-depth exposure to the subject	70.86
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	70.29
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	71.43
5	Rate the electives offered in relation to the technological advancements?	59.43
6	Content of the courses encourages extra learning/ self-learning.	70.86
7	Rate the percentage(Number) of courses having practical components?	73.14
8	Rate the domain used for Designing/ performing the experiments in the laboratory?	75.43



Overall observation: Many Students are satisfied with the Curriculum

Key suggestions given: Some gave the suggestion that curriculum should be practical oriented.

HOD
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Electrical Engineering

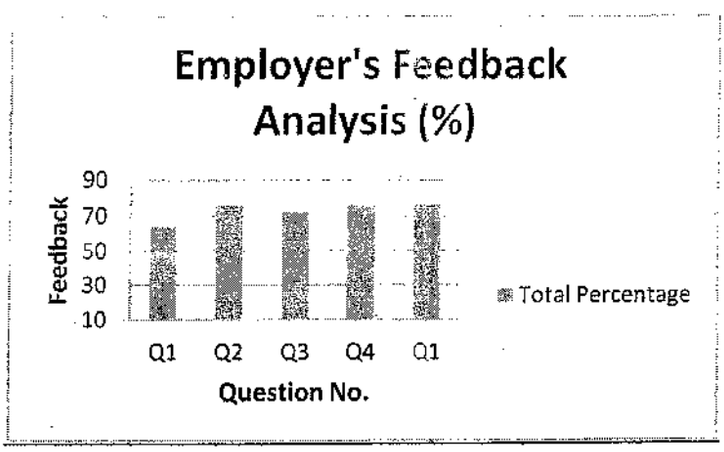
Session: 2020-21

Analysis of Employers Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 8

Date of Analysis : July 2021

Sr.No	Particulars	% Feedback
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	64
2	The graduate has an in-depth exposure to the core courses	76
3	The graduates have adequate practical exposure for undertaking real time projects	72
4	The graduates have necessary soft skills and are successful team players.	76
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	76



Overall observation: Most Employer Alumni are satisfied with the curriculum.

Key suggestions given: SomeEmployes gave the suggestion that curriculum should be practical and skilled based

HOD

H.O.D. (Elect. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

Dean Academics

Principal
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

Students Satisfaction Survey on Teaching - Learning Process- Session 20-21

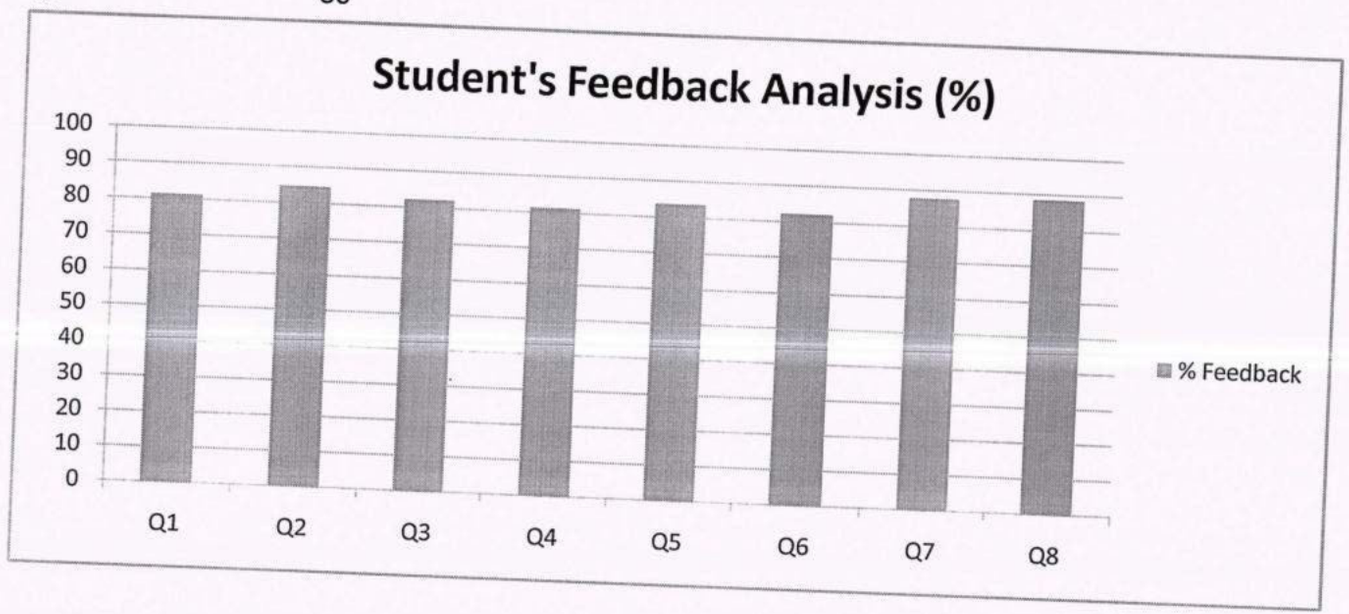
Give the points ranging from 5,3,1 . (5. High 3. Modarate, 1. Low)

Roll No	Name of Students	QUESTIONNAIRES FOR THE STUDENT SATISFACTION SURVEY							
		Q. 1 The curriculum is up to date and relevant from the point of view of employability	Q.2 The core courses offer an in-depth exposure to the subject	Q.3 Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	Q.4 The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	Q.5 Rate the electives offered in relation to the technological advancements?	Q.6 Content of the courses encourages extra learning/ self-learning.	Q.7 Rate the percentage(Number) of courses having practical components ?	Q.8 Rate the domain used for Designing/ performing the experiments in the laboratory?
1	* Aishwarya Mehare	5	5	5	5	5	5	5	5
2	* Akshay Hatkar	5	5	3	5	5	3	5	5
3	* Aniket Jagdale	5	5	5	5	5	5	5	3
4	* Ankit balapure	5	5	3	3	3	3	5	5
5	* Anuja Patre	5	5	5	5	3	5	5	3
6	* Anushree Tayde	5	5	5	5	5	5	5	5
7	* Dipshikha Ikhe.	5	3	5	1	5	5	5	5
8	* Divya Tayde	3	5	1	5	5	5	5	5
9	* Divya wandhare	5	5	5	3	5	5	5	5
10	* Harshada B Dewalkar	5	5	5	3	5	5	5	5
11	* Kartavya Nathile	5	5	3	5	5	3	5	3
12	* Kashif N Husain	1	3	1	5	3	1	5	1
13	* Kewal Choudhari	3	5	5	5	1	5	5	5
14	* Komal Ingale	5	5	5	1	5	5	3	5
15	* Madhuri Bhagat	3	5	5	5	5	5	1	5
16	* Mahesh T. Chavhan	5	5	5	3	5	1	5	1
17	* Manish jadhav	1	5	5	1	1	3	5	3
18	* Mayuri gaydhani	5	5	5	5	3	5	5	5
19	* Mugdha Deshmukh	5	3	1	5	5	5	1	5
20	* Navnit Raut	3	5	5	5	5	5	3	5
21	* Pallavi diware	5	5	5	5	5	3	5	5
22	* Prajakta Tekam	1	3	5	1	5	1	5	5
23	* Priya shrikhande	5	5	5	5	5	5	5	5
24	* Radha wagdarkar	5	3	1	5	5	5	5	5

& HOD, MCA

25	Rakesh Rajote	3	3	5	5	5	5	5	5
26	* Rushabh Deshmukh	5	5	5	5	5	1	5	5
27	* Rutuja Wasu	1	5	5	1	5	3	1	5
28	* Samiksha Dawande	5	1	1	5	5	5	5	5
29	* Sanket Pempakwar	1	5	3	5	5	5	5	5
30	* Saurabh Dhote	5	3	5	5	3	5	5	5
31	* Shivani D. Jirapure	5	3	5	5	1	5	5	5
32	* Shivani Dahake	3	5	5	5	5	5	5	5
33	* Shivani Khade	5	5	5	1	5	1	5	5
34	* Shivdas Pendor	5	5	5	3	5	5	3	5
35	* Shivgauri kubde	1	1	3	5	1	5	3	5
36	* Shubhada thakare	5	5	1	5	3	5	5	5
37	* Shubham Shrikhande	5	3	5	5	3	5	5	5
38	* Shweta S. Sharma	3	1	5	5	5	3	3	5
39	* Sneha futane	5	5	5	5	5	1	3	3
40	* Snehal Bundile	5	5	1	3	5	5	3	1
41	* Sunaina pohare	5	5	3	1	3	5	5	5
42	* Suvidha Ganoskar	5	5	5	5	5	5	5	5
43	* Vaishnavi Kubde	3	1	5	5	5	1	5	5
44	* Vaishnavi Prajapati	5	1	5	5	1	3	3	1
45	* Vaishnavi Tawalare	5	5	5	1	3	5	5	3
46	* Vijeta Meshram	1	5	3	3	5	5	5	5
47	* Sanket Wasankar	5	5	3	5	5	5	3	5
48	* Namrata Khawale	5	5	5	5	3	5	5	5
49	* Mayur Sonar	3	5	5	5	5	5	5	5

Q. No.	% Feedback
Q1	81
Q2	84
Q3	82
Q4	81
Q5	84
Q6	82
Q7	88
Q8	89



P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Master in Computer Application

Analysis of Student Feedback on Curriculum

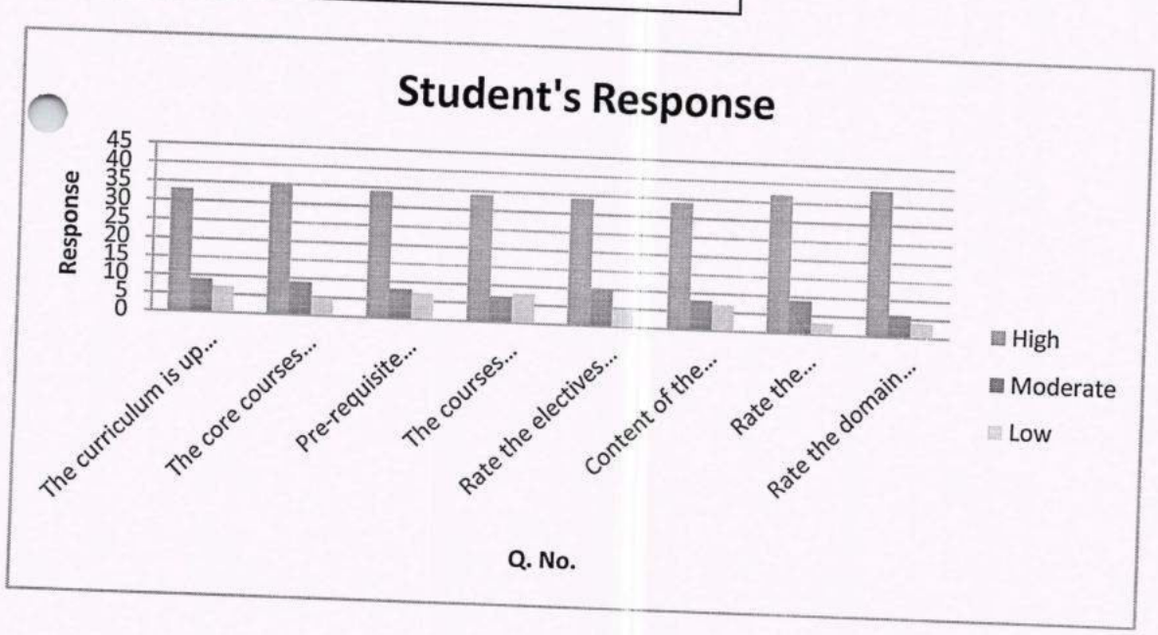
Academic Year 2020-21

No. of Samples Collected: 49

Date of Analysis Aug 21

Sr. No	Particular	High	Moderate	Low	% Feedback
1	The curriculum is up to date and relevant from the point of view of employability	33	9	7	81.22
2	The core courses offer an in-depth exposure to the subject	35	9	5	84.49
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	34	8	7	82.04
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	34	7	8	81.22
5	Rate the electives offered in relation to the technological advancements?	34	10	5	83.67
6	Content of the courses encourages extra learning/ self-learning.	34	8	7	82.04
7	Rate the percentage(Number) of courses having practical components?	37	9	3	87.76
8	Rate the domain used for Designing/ performing the experiments in the laboratory?	39	6	4	88.57

Stdent feedback Analysis



H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
Department of MCA

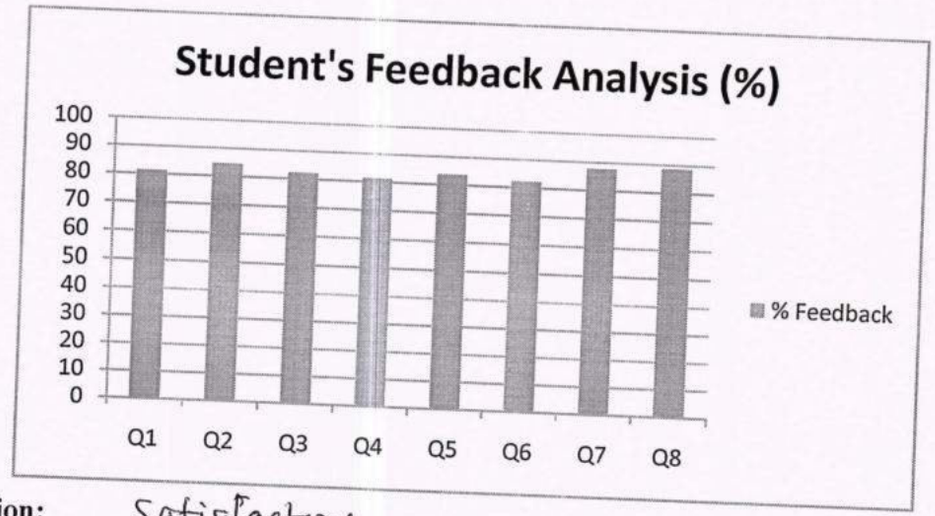
Session: 2020-21

Analysis of Students Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 49

Date of Analysis: Aug 21

Sr. No	Particulars	% Feedback
1	The curriculum is up to date and relevant from the point of view of employability	81
2	The core courses offer an in-depth exposure to the subject	84
3	Pre-requisite courses/ topics are covered in the curriculum prior to introduction of a course	82
4	The courses enhance the analytical/ problem solving/ critical thinking/ innovative skills	81
5	Rate the electives offered in relation to the technological advancements?	84
6	Content of the courses encourages extra learning/ self-learning.	82
7	Rate the percentage(Number) of courses having practical components?	88
8	Rate the domain used for Designing/ performing the experiments in the laboratory?	89



Overall observation: Satisfactory

Key suggestions given: No.

HOD

Dean Academics

Principal

H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

P. R. Pote (Patil)
College of Engineering & Management

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

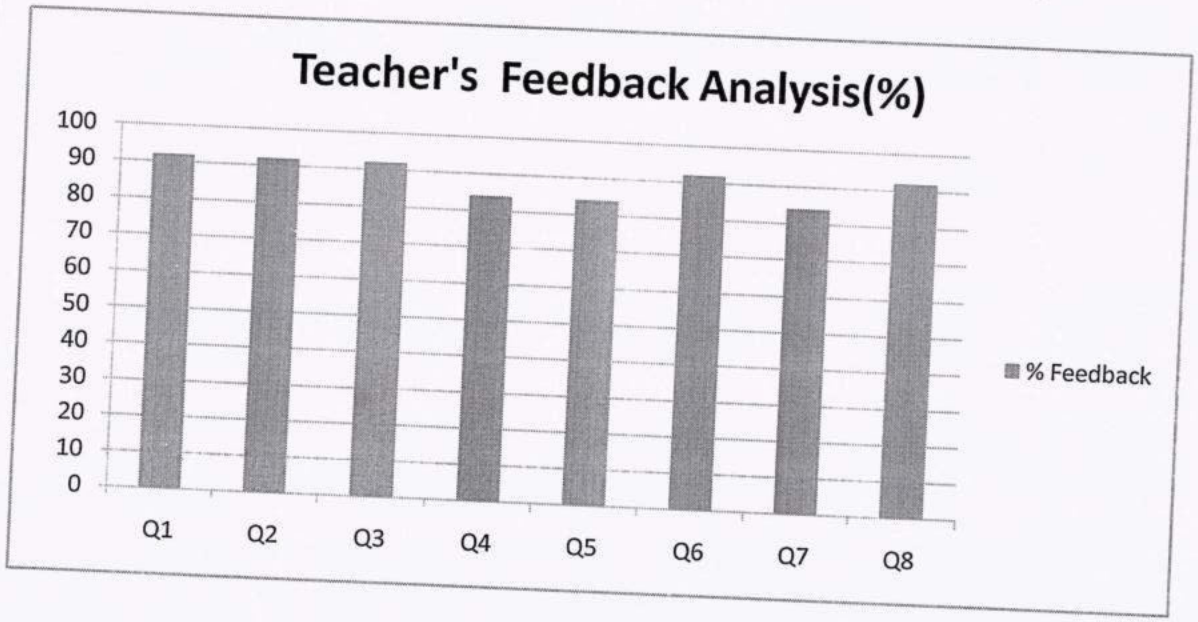
Department of MCA

Teacher Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,1 . (5. High 3. Modarate, 1 . Low)

Roll No	Name of Teachers	QUESTIONNAIRES FOR THE TEACHERS							
		Q1. The learning objectives are clear and appropriate to the program.	Q2. The curriculum and syllabus are well organized and suitable to the program.	Q3. The textbooks/ Reference Books are well suited to the course.	Q4. The system followed by the university for the design and development of curriculum is effective.	Q5. Provision to update curriculum time to time.	Q6. Rate the distribution of contact hours among the course components?	Q7. The curriculum has a good balance between theory and practical.	Q8.Rate the electives offered in relation to the technological advancements?
1	Prof A. S. Bhande	5	5	5	5	3	5	3	5
2	Prof P. S. Thombare	5	3	5	3	3	5	5	5
3	Prof S. M. Jadhav	5	5	5	3	5	5	5	3
4	Prof R. V. Mahule	5	5	3	5	5	5	3	5
5	Prof L .S. Bhattad	3	5	5	5	5	3	5	5

Q. No.	% Feedback
Q1	92
Q2	92
Q3	92
Q4	84
Q5	84
Q6	92
Q7	84
Q8	92



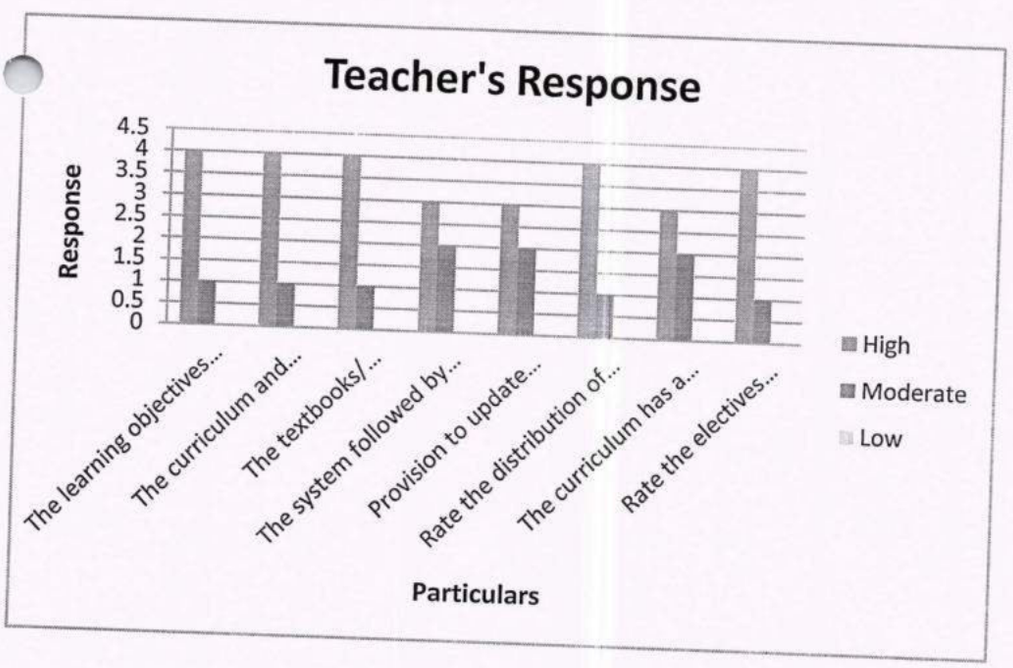
H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust's
Group of Institutions College of Engg. & Management
Kathore Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
Department of Master in Computer Application
Analysis of Teachers Feedback on Curriculum
Academic Year 2020-21

No. of Samples Collected: 5
Date of Analysis 20-01-2021

Sr. No	Particular	High	Moderate	Low	Total Percentage
1	The learning objectives are clear and appropriate to the program.	4	1	0	92.00
2	The curriculum and syllabus are well organized and suitable to the program.	4	1	0	92.00
3	The textbooks/ Reference Books are well suited to the course.	4	1	0	92.00
4	The system followed by the university for the design and development of curriculum is effective.	3	2	0	84.00
5	Provision to update curriculum time to time.	3	2	0	84.00
6	Rate the distribution of contact hours among the course components?	4	1	0	92.00
7	The curriculum has a good balance between theory and practical.	3	2	0	84.00
8	Rate the electives offered in relation to the technological advancements?	4	1	0	92.00

Teacher's Feedback Analysis



H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
Department of MCA

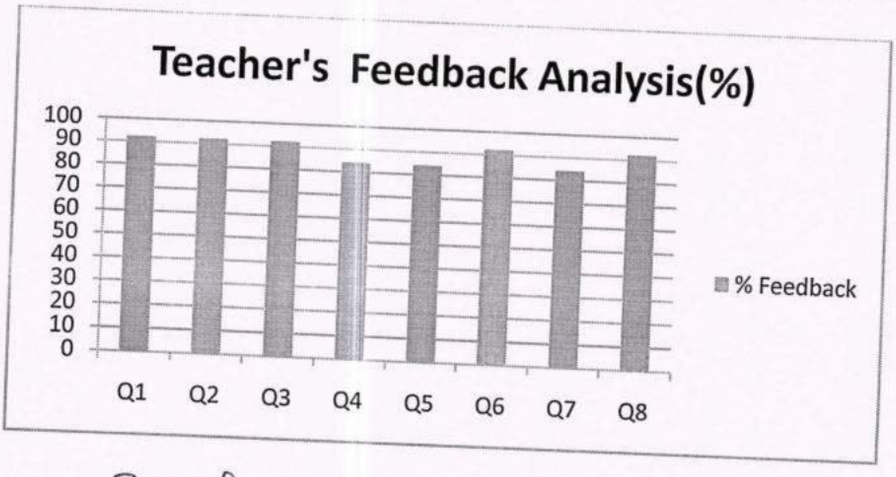
Session 2020-21

Analysis of Teachers Feedback on Curriculum

Total No of Sample collected: 5

Date of Analysis: 20-01-2021

Sr.No	Particulars	% Feedback
1	The learning objectives are clear and appropriate to the program.	92
2	The curriculum and syllabus are well organized and suitable to the program.	92
3	The textbooks/ Reference Books are well suited to the course.	92
4	The system followed by the university for the design and development of curriculum is effective.	84
5	Provision to update curriculum time to time.	84
6	Rate the distribution of contact hours among the course components?	92
7	The curriculum has a good balance between theory and practical.	84
8	Rate the electives offered in relation to the technological advancements?	92



Overall observation: Satisfactory in every aspect.

Key suggestions given: No suggestions

HOD

H.O.D. Dept of MCA
Pote Patil Education & Welfare Trust
Institutions College of Engg. & Management
Kathora Road, Amravati

Dean Academics

Principal

Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

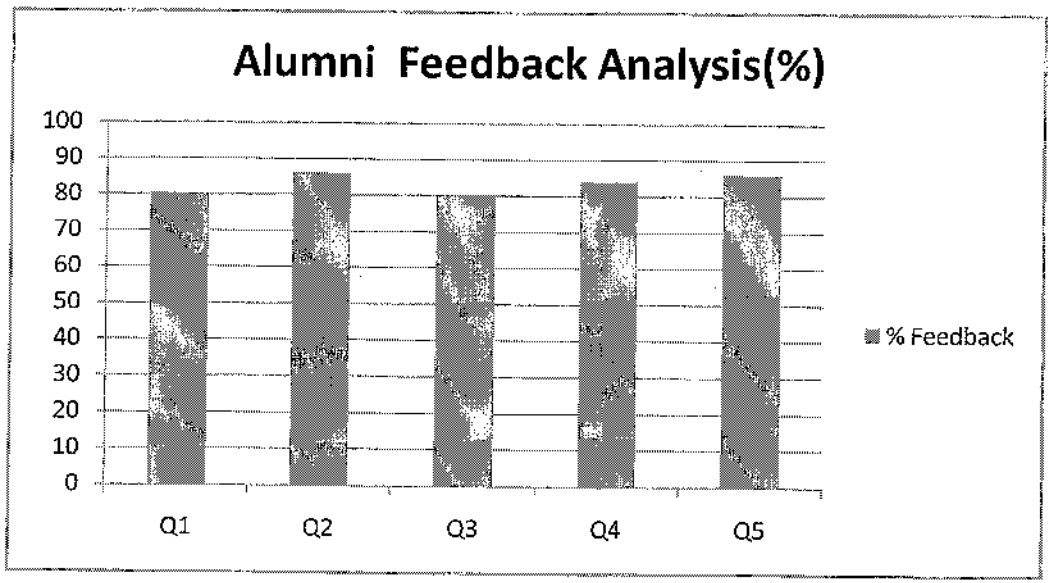
Department of MCA

Alumni Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,1 . (5. High 3. Modarate, 1. Low)

Roll No	Name of Students	QUESTIONNAIRES FOR THE ALUMNI				
		Q1. Curriculum meets pre-requisite and basic knowledge required for the career.	Q2. Use fullness of learning experience in career.	Q3. Electives offered in relation to the technological advancements.	Q4. The new courses (subjects) Introduced meet contemporary (existing) requirements.	Q5. Design of the courses (subjects) encourages/ motivates extra learning or self-learning.
1	Akshay Gangadhar	3	3	5	5	3
2	Arati Mahadevrao Mahore	3	1	5	5	5
3	Ashwini Rajendra Yeokar	5	5	5	5	5
4	Gangaprasad Sainath	5	5	3	3	5
5	Mohsin Khan_Pathan	5	5	5	5	5
6	**Payal Diliprao Lunge**	5	5	5	3	3
7	Payal Suresh Rewatakar	3	5	3	3	5
8	Pratik Sanjayrao Wasu	3	5	5	3	5
9	Priya Ashokrao Gulhane	5	3	5	5	5
10	**Rinku Anil Bhatkar**	5	5	1	1	1
11	Saima Parween Abdul	5	5	5	5	5
12	Sakshi Ajay Bijwe	1	5	5	5	3
13	Sakshi Harish Tanna	5	5	5	5	5
14	Seema Kailas Ingole	3	5	1	5	5
15	Sheetal Anil Zambre	5	1	3	3	5
16	Shiwani Dipak Deshmukh	3	5	5	5	5
17	Steven Pradip Kamble	5	5	1	3	1
18	Unnati Sunil Fuse	5	3	5	5	5
19	Vaishnavi D Deshmukh	5	5	5	5	5
20	Vishakha Sukhdev	1	5	3	5	5

Q. No.	% Feedback
Q1	80
Q2	86
Q3	80
Q4	84
Q5	86



ASB

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Master in Computer Application

Analysis of Alumni Feedback Curriculum

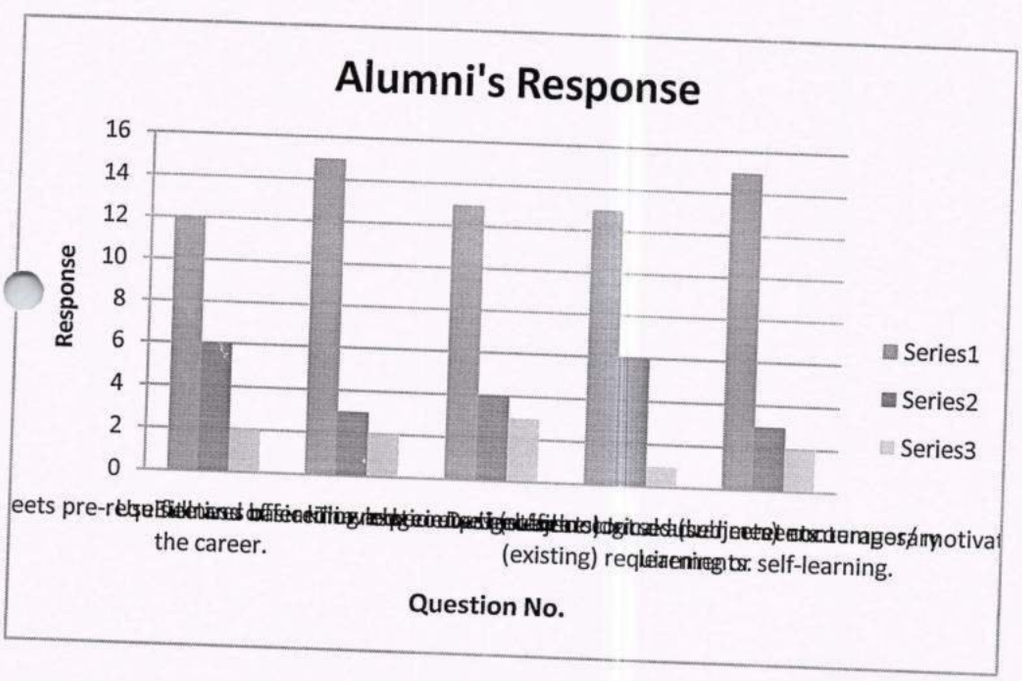
Academic Year 2020-21

No. of Samples Collected: 20

Date of Analysis 28/01/21

Sr. No	Particular	High	Moderate	Low	Total Percentage
1	Curriculum meets pre-requisite and basic knowledge required for the career.	12	6	2	80.00
2	Use fullness of learning experience in career.	15	3	2	86.00
3	Electives offered in relation to the technological advancements.	13	4	3	80.00
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	13	6	1	84.00
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	15	3	2	86.00

Alumni Feedback Analysis



H.O.D. Dept of MCA

P. R. Pote Patil Education & Welfare Trust

Group of Institutions College of Engg. & Management

Nathora Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

Session- 2020-21

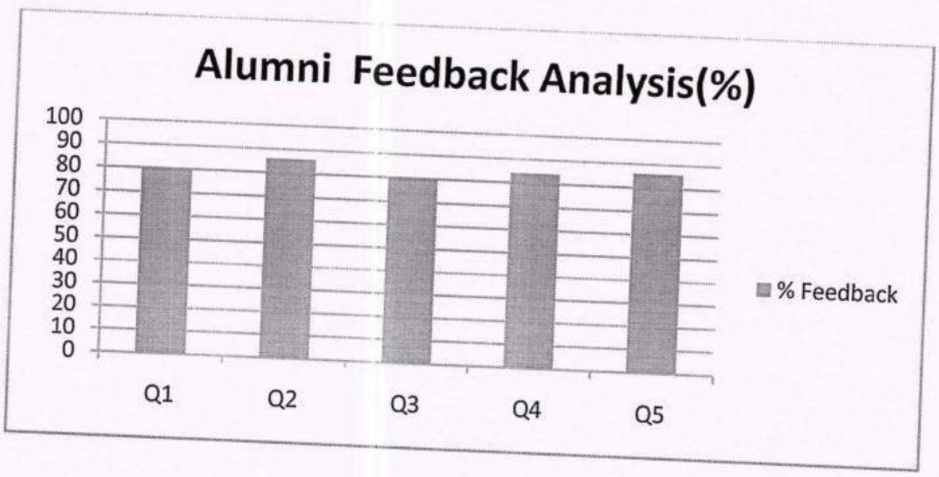
Analysis of Alumni

Feedback on Curriculum

Total No of Sample collected: 20

Date of Analysis: 20/01/21

Sr. No	Particulars	% Feedback
1	Curriculum meets pre-requisite and basic knowledge required for the career.	80
2	Use fullness of learning experience in career.	86
3	Electives offered in relation to the technological advancements.	80
4	The new courses (subjects) Introduced meet contemporary (existing) requirements.	84
5	Design of the courses (subjects) encourages/ motivates extra learning or self-learning.	86



Overall observation: Satisfactory in all aspects

Key suggestions given: No

HOD

Head Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

Dean Academics

Principal

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

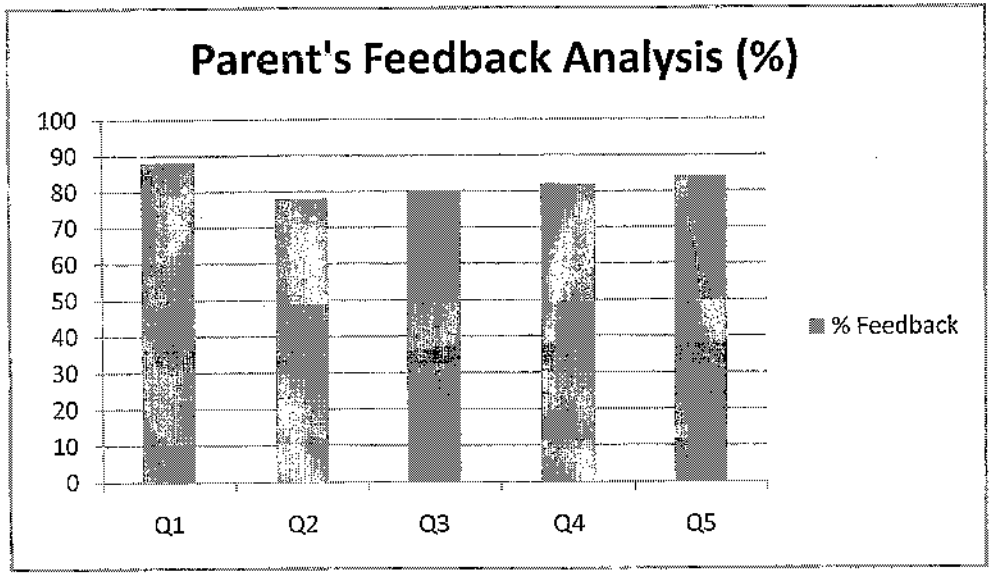
Department of MCA

Parents Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,4,3,2,1 . (5. Excellent 4.Very Good, 3. Good, 2. Satisfactory and 1 Poor)

Roll No	Name of Students	QUESTIONNAIRES FOR THE PARENTS				
		Q1. Rate the learning experience gained by the ward Through curriculum of the course	Q2. Rate the competency of the curriculum with respect to other Universities	Q3. Rate the relevance of curriculum to the program	Q4. Rate the incorporation of recent changes of technology in the curriculum	Q5. Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.
1	VILASRAO WAGDARKAR	5	3	5	5	3
2	BHARATRAO DESHMUKH	5	5	5	5	5
3	ANILRAO PEMPAKWAR	1	5	1	3	5
4	GANGADHARRAO DHOTE	5	5	5	5	5
5	SUBHASHRAO KHADE	5	3	5	5	5
6	SUBHASHRAO DAHAKE	1	5	3	3	5
7	DIPAKRAO THAKARE	5	5	1	5	5
8	GOPALRAO FUTANE	5	1	5	5	5
9	RAMRAO BUNDILE	5	5	5	5	3
10	SHASHIKANT POHARE	5	5	5	3	5
11	RAJESH KUBDE	5	3	5	5	5
12	RAMESHWAR TAWALARE	5	1	1	5	3
13	KESHAORAO NAMDEORAO PATIL	3	5	5	5	5
14	SANJAYRAO NARAYRAO MEHERE	5	5	5	1	5
15	GAJANANRAO SHANKARRAO JAGDA	5	5	3	5	5
16	HEMANT VASANTRAO BALAPURE	5	3	1	1	1
17	MAHENDRA WANDHARE	5	1	5	5	5
18	BANDU MARUTI DEWALKAR	5	5	5	5	3
19	NASIR HUSAIN	3	5	5	5	1
20	TUKARAM LAXMAN CHAVHAN	5	3	5	1	5

Q. No.	% Feedback
Q1	88
Q2	78
Q3	80
Q4	82
Q5	84



P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Master in Computer Application

Analysis of Feedback for Parent on Curriculum

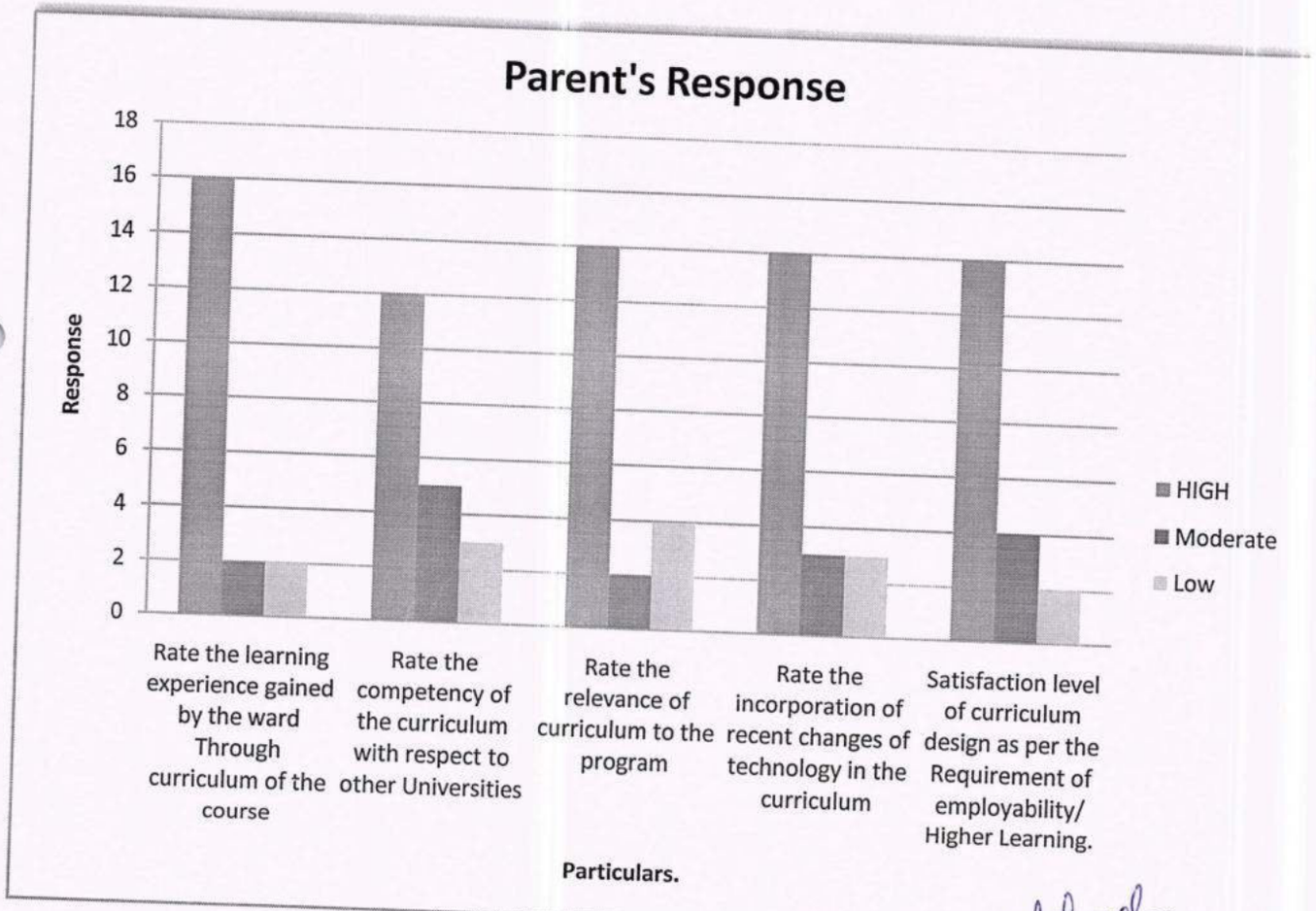
Academic Year 2020-21

No. of Samples Collected: 20

Date of Analysis 20/01/21

Sr. No	Particular	High	Moderate	Low	%Feedback
1	Rate the learning experience gained by the ward Through curriculum of the course	16	2	2	88.00
2	Rate the competency of the curriculum with respect to other Universities	12	5	3	78.00
3	Rate the relevance of curriculum to the program	14	2	4	80.00
4	Rate the incorporation of recent changes of technology in the curriculum	14	3	3	82.00
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.	14	4	2	84.00

Parent Feedback Analysis



H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Badnera Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati
Department of MCA

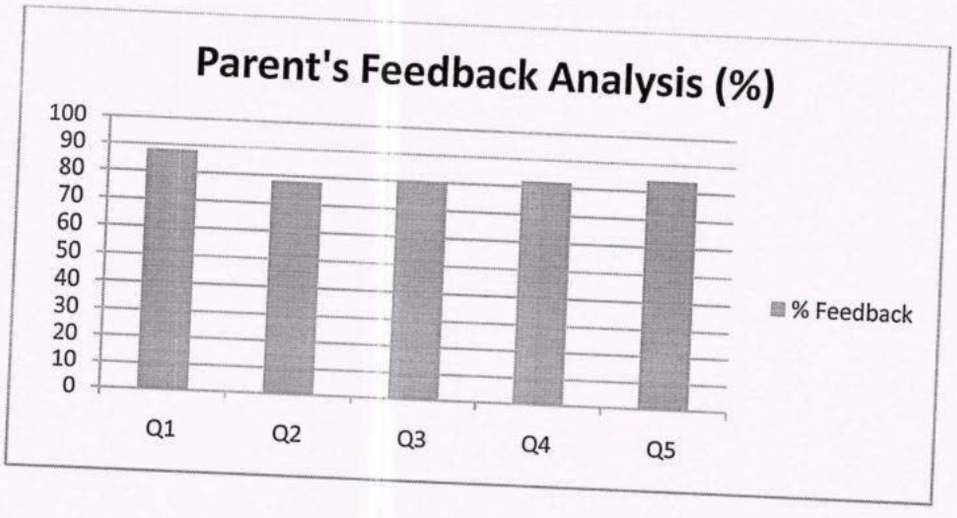
Session 2020-21

Analysis of Parents Feedback on Curriculum

Total No of Sample collected: 20

Date of Analysis: 20/01/21

Sr.No.	Particulars	% Fedback
1	Rate the learning experience gained by the ward Through curriculum of the course	88
2	Rate the competency of the curriculum with respect to other Universities	78
3	Rate the relevance of curriculum to the program	80
4	Rate the incorporation of recent changes of technology in the curriculum	82
5	Satisfaction level of curriculum design as per the Requirement of employability/ Higher Learning.	84



Overall observation: Satisfactory

Key suggestions given: No suggestions

HOD

H.O.D. Dept of MCA
R. Pote Patil Education & Welfare Trust
Gp of Institutions College of Engg. & Management
Kathora Road, Amravati

Dean Academics

Principal

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

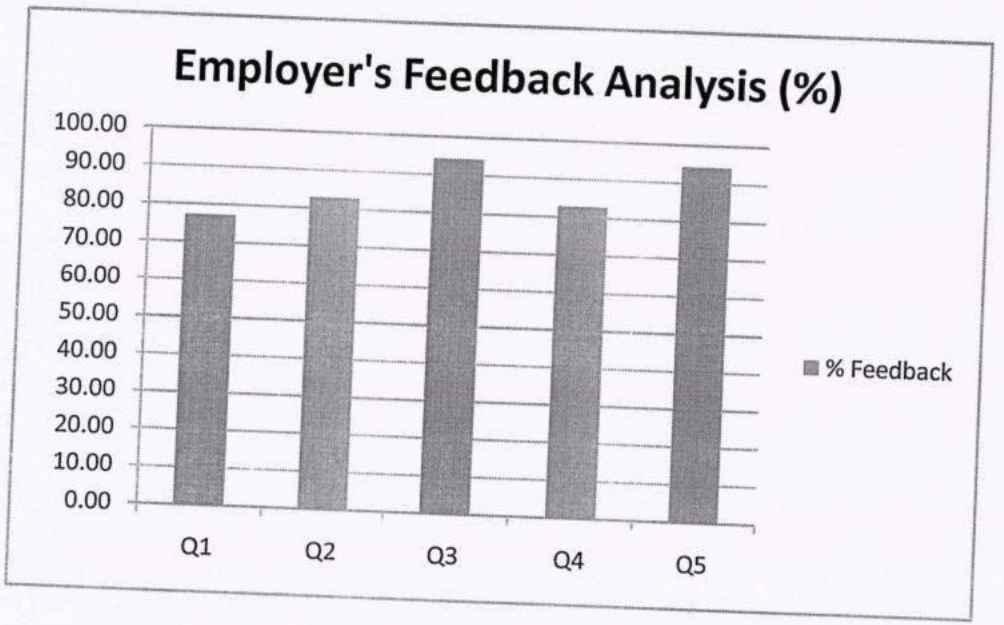
Employer Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,1 . (5. High 3. Modarate, 1. Low)

Roll No	Name of Employee	Name Of The Company	QUESTIONNAIRES FOR EMPLOYERS				
			The curriculaum prepares the graduate to deliver technical services as per industry requirements.	The graduates has an in-depth exposure to the core courses.	The graducates have adequate practical exposure for undertaking real time projects	The graduates have necessary soft skills and are successful team players.	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.
1	Saurabh Dhote	Case Point Pvt. Ltd	3	5	3	5	3
2	Sunayana Pohare	Case Point Pvt. Ltd	3	5	3	5	3
3	Sunaina Pohare	iBase Electrosoft LLP	5	5	5	5	5
4	Rutuja Wasu	iBase Electrosoft LLP	5	5	5	5	5
5	Rakesh Rajote	iBase Electrosoft LLP	5	5	5	5	5
6	Anushree Tayade	iBase Electrosoft LLP	5	5	5	5	5
7	Shivani Khade	iBase Electrosoft LLP	5	5	5	5	5
8	Vishnavi Tawlare	iBase Electrosoft LLP	5	5	5	5	5
9	Rakesh Rajote	Case Point Pvt. Ltd	3	3	5	3	5
10	Mugdha Deshmukh	Avatu Pvt. Ltd.	3	3	5	3	5
11	Kashif Husain	Avatu Pvt. Ltd.	3	3	5	3	5
12	Ankit Balapure	Avatu Pvt. Ltd.	3	3	5	3	5
13	Mahesh Chavan	Avatu Pvt. Ltd.	3	3	5	3	5
14	Shivgauri Kubde	Avatu Pvt. Ltd.	3	3	5	3	5

P Head, MCA

Q. No.	% Feedback
Q1	77.14
Q2	83
Q3	94
Q4	83
Q5	94



P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of Master in Computer Application

Analysis of Feedback for Parent on Curriculum

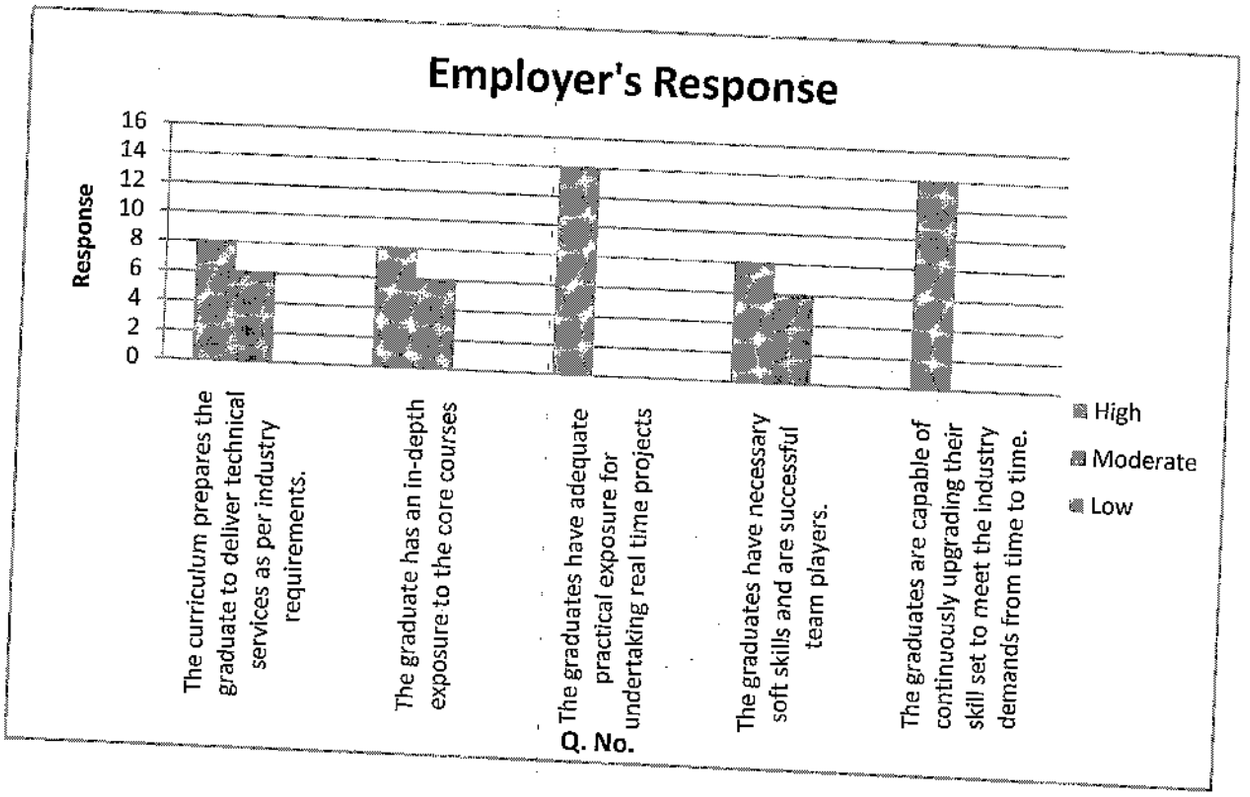
Academic Year 2020-21

No. of Samples Collected: 14

Date of Analysis July'21

Sr. No	Particular	High	Moderate	Low	Total Percentage
	The curriculum prepares the graduate to deliver technical services as per industry requirements.	8	6	0	77.14
2	The graduate has an in-depth exposure to the core courses	8	6	0	83
3	The graduates have adequate practical exposure for undertaking real time projects	14	0	0	94
4	The graduates have necessary soft skills and are successful team players.	8	6	0	83
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	14	0	0	94

Employer's Feedback Analysis



P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

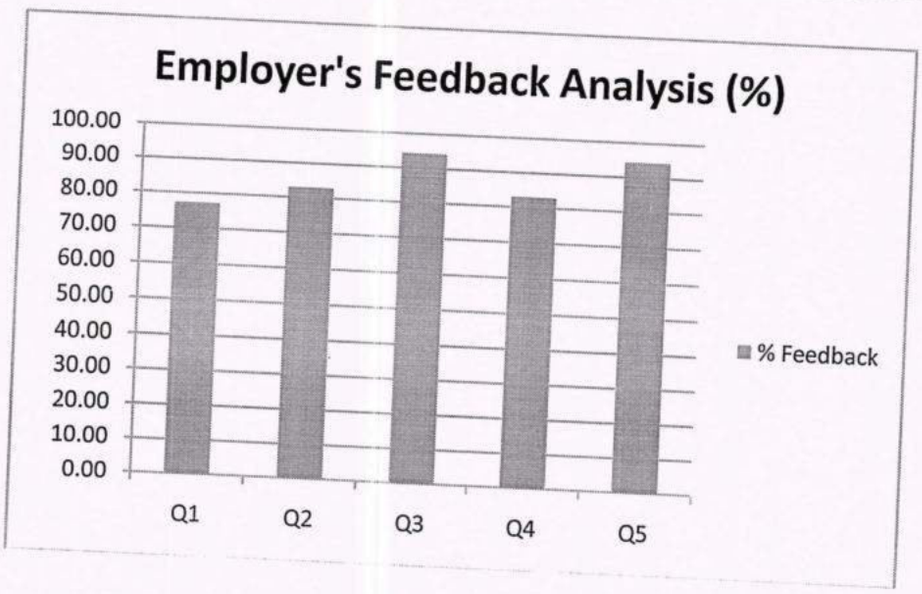
Session: 2020-21

Analysis of Employers Feedback on Curriculum (Design & Review of Syllabus)

Total No of Sample collected: 14

Date of Analysis: July'21

Sr.No	Particulars	% Feedback
1	The curriculum prepares the graduate to deliver technical services as per industry requirements.	77.14
2	The graduate has an in-depth exposure to the core courses	83
3	The graduates have adequate practical exposure for undertaking real time projects	94
4	The graduates have necessary soft skills and are successful team players.	83
5	The graduates are capable of continuously upgrading their skill set to meet the industry demands from time to time.	94



Overall observation: Satisfactory Response

Key suggestions given: None

HOD Dept of MCA
P. Pote Patil Education & Welfare Trust's
...s of Institution, College of Engg. & Management
Kathora Road, Amravati

6

Dean Academics

Principal
College of Engineering & Management
P. R. Pote (Patil)
Principal

	P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati IQAC Cell

AQAR 2020-21

NAAC Criteria-1: Curricular Aspects

1.4 Feedback System

1.4.2	Feedback Process of the Institution

Contents

1.4.2

Feedback Process followed by the Institute

Institute has a mechanism of obtaining feedback from students and stakeholders on curriculum. The institute takes regular feedback from Alumni, Students, Teachers and Parents. The feedback from the students regarding the faculty, facilities and other entities are taken once in a semester. Detail analysis of this feedback is carried out. Also, faculty collects the feedback and problems of students during counseling meetings. They report it to HoD. Respective HoD's and Vice Principal convey this information to the Principal. In the meeting with the Principal and the management, this information is discussed. Based on these discussions, activities are revised. Periodic meetings with alumni, parents, students and staff ensure that all the stakeholders are aware of the college activities.

Feedback from other stakeholders i.e. alumni, parents, employer is collected once in a year. Analysis of this feedback is carried out. Based on received feedback, the Institution takes corrective measures to improve its performance. The comments of stakeholders are also communicated to University authorities through workshops, meeting with Dean, Vice Chancellor, and officers of Academic Council. The faculty who is involved in curriculum development gives the feedback to the core group formed by the University.

Head of Department

H.O.D. (EXTC Dept.)
P. R. Pote (Patil) College of Engg. & Management
Amravati.

Principal

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report Format 2020-2021

The Action Taken Report (ATR) is compiled after completion of Feedback of different Stakeholders on Curriculum. The stakeholders include the current students, teachers Employers and Alumni.

- For each feedback, the threshold value of Average feedback Percentage on any question is decided as **70%**.
- If the Average Feedback for a particular Question is less than 70%, action is taken and report is generated Accordingly.
- Also necessary Actions are taken on the key suggestions given by different stakeholders in the feedback.

HOD, CSE

H.O.D. (Comp. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Amravati.

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum Feedback

Year 2020-2021

Name of Department/Facility: Computer Science & Engineering

Name of Activity: **Alumni Feedback for Curriculum**

SN	Suggestions or Issues	Action Taken
1	Hands on industrial training & internships should be promoted.	MoUs are planned with different companies to promote internships also certification courses on different platforms are promoted
2	more practical orientation needed	Technical workshops and hands on are planned for giving more practical knowlwdge
3	New subjects and Motivational seminars should increase	New syllabus is proposed and in progressive implementation by the SGBAU, Amravati

HOD, CSE

IQAC Coordinator

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum Feedback

Year 2020-2021

Name of Department/Facility: Computer Science & Engineering

Name of Activity: **Teacher's Feedback for Curriculum**

SN	Suggestions or Issues	Action Taken
1	new subjects based on recent technologies must be included in syllabus	Various workshops and guest lectures are planned for topics and technologies which are not included in syllabus.
2	more focus should be given on practical implementations	Extra technical workshops are planned for giving hands on experience on different technologies and certification courses are also promoted

HOD, CSE

H.O.D. (Comp. Engg.)
P.R.Pote (Patil) College of E... ...anagement
Amravati

IQAC Coordinator

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum Feedback

Year 2020-2021

Name of Department/Facility: Computer Science & Engineering

Name of Activity: **Student Feedback for Curriculum**

SN	Suggestions or Issues	Action Taken
1	More Practical Approach Needed	Extra technical workshops are planned for giving hands on experience on different technologies and certification courses are also promoted
2	More Organized Syllabus required	Suggestions are given to Board of Studies in the syllabus framing meeting attended by faculties.

HOD, CSE

H.O.D. (Comp. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

IQAC Coordinator

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum Feedback

Year 2020-2021

Name of Department/Facility: Computer Science & Engineering

Name of Activity: **Employers Feedback for Curriculum**

SN	Suggestions or Issues	Action Taken
1	New technologies need to be taught.	Suggestions are given to Board of Studies in the syllabus framing meeting attended by faculties. And different training sessions are arranged on new technologies.

HOD, CSE

IQAC Coordinator

Co-ordinator, IQAC
P.R. Pote (Patil) C O E & M
Amravati

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report Format 2020-21

The Action Taken Report (ATR) is compiled after completion of Feedback of different Stakeholders on Curriculum. The stakeholders include the current students, teachers Parents, Employers and Alumni.

- For each feedback, the threshold value of Average feedback Percentage on any question is decided as **70%**.
- If the Average Feedback for a particular Question is less than 70%, action is taken and report is generated Accordingly.

Prof.D.A.Shahakar
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum

Year 2020-2021

Name of Department/Facility: **Electrical Engineering**

Name of Activity: **Alumni Feedback for Curriculum**

SN	Suggestions or Issues	Observation	Action Taken
1	Curriculum should motivates extra learning	curriculum should as per the requirement of employability	1) Various workshops and guest lectures are planned for topics and technologies which are not included in syllabus. 2) Suggestions are given to Board of Studies in the syllabus framing meeting attended by faculties.

Prof.D.A.Shahakar
HOD EE
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

IQAC Coordinator

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum

Year 2020-2021

Name of Department/Facility: **Electrical Engineering**

Name of Activity: **Teacher's Feedback for Curriculum**

SN	Suggestions or Issues	Observation	Action Tak
1	University should develop and update curriculum time to time	curriculum should be updated as per the industry requirement.	Suggestions are given Board of Studies in th syllabus framing meet: attended by faculties
2	Electives offered in relation to the technological advancements.	curriculum should as per the requirement of new technologies	Suggestions are given to Board of Studies in the syllabus framing meeting attended by faculties

H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

IQAC Coordinator

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum

Year 2020-2021

Name of Department/Facility: **Electrical Engineering**

Name of Activity: **Student Feedback for Curriculum**

SN	Suggestions or Issues	Observation	Action Taken
1	Curriculum should be updated to enhance critical thinking and practical knowledge	curriculum should enhance experience of students	Various workshops and guest lectures are planned for topics and technologies which are not included in syllabus.
2	Curriculum should lead to technological advancement and encourage extra learning.	new subjects related with emerging technologies should be added	Suggestions are given to Board of Studies in the syllabus framing meeting attended by faculties.

Prof.D.A.Shahakar
H.O.D. (Elect. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati.

IQAC Coordinator

P. R. Pote (Patil) College of Engineering & Management, Amravati

Action Taken Report for Curriculum

Year 2020-2021

Name of Department/Facility: **Electrical Engineering**

Name of Activity: **Employers Feedback for Curriculum**

SN	Suggestions or Issues	Observation	Action Taken
1	Necessity of soft skills and quality to be a successful team player.	Soft skills and team spirit is to be developed in students	T & P Conducts different special training sessions on soft skill, aptitude and group discussion

Prof.D.A.Shahakar
HOD, EE

H.O.D. (Elect. Dept.)
P. R. Pote (Patil) College of Engg. & Management
Amravati.

IQAC Coordinator

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

Students Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,3,1,1 . (5. Excellent 3.Very Good, 3. Good, 1. Satisfactory and 1 Poor)

Roll No	Name of Students	QUESTIONNAIRES FOR THE STUDENT SATISFACTION SURVEY									
		Q. 1 How much of the syllabus was covered in the class?	Q.2 How well did the teachers prepare for the classes?	Q.3 How well were the teachers able to communicate?	Q.4 The teacher's approach to teaching can best be described as	Q.5 Fairness of the internal evaluation process by the teachers.	Q.6 Was your performance in assignments discussed with you?	Q.7 The institute takes active interest in promoting internship, student exchange, field visit opportunities for students.	Q.8 The teaching and mentoring process in your institution facilitates you in cognitive, social and emotional growth.	Q.9 The institution provides multiple opportunities to learn and grow.	Q.10 Teachers inform you about your expected competencies, course outcomes and programme outcomes.
1	* Aishwarya Mehare	5	3	5	5	3	5	5	5	5	5
2	* Akshay Hatkar	3	3	3	3	3	3	3	3	3	3
3	* Aniket Jagdale	5	5	5	5	5	5	5	5	5	5
4	* Ankit balapure	3	3	3	3	3	3	3	3	3	3
5	* Anuja Patre	5	3	5	5	3	5	5	5	5	5
6	* Anushree Tayde	3	3	3	3	3	3	3	3	3	3
7	* Dipshikha Ikhe.	5	5	5	5	5	5	5	5	5	5
8	* Divya Tayde	5	3	3	5	3	5	5	3	5	5
9	* Divya wandhare	5	3	3	5	3	5	5	5	5	5
10	* Harshada B Dewalkar	5	5	3	5	5	5	5	5	5	5
11	* Kartavya Nathile	5	5	3	5	5	5	5	5	5	5
12	* Kashif N Husain	5	3	5	5	3	5	5	5	5	5
13	* Kewal Choudhari	5	5	3	5	5	5	5	5	5	5
14	* Komal Ingale	5	5	5	5	5	5	5	3	5	5
15	* Madhuri Bhagat	5	5	5	5	5	5	5	3	5	5
16	* Mahesh T. Chavhan	5	3	5	5	3	5	5	3	5	5
17	* Manish jadhav	5	5	5	5	5	5	5	5	5	5
18	* Mayuri gaydhani	5	5	5	5	5	5	5	5	5	5
19	* Mugdha Deshmukh	5	5	3	5	5	5	5	5	5	5
20	* Navnit Raut	5	5	3	5	5	5	5	5	5	5
21	* Pallavi diware	5	3	3	5	3	5	5	5	5	5
22	* Prajakta Tekam	5	5	5	3	5	5	5	5	3	5
23	* Priya shrikhande	5	1	5	5	1	5	5	5	3	5
24	* Radha wagdarkar	5	5	5	5	5	5	5	5	3	5
25	* Rakesh Rajote	5	5	5	3	5	3	5	5	3	5
26	* Rushabh Deshmukh	5	3	5	5	3	3	5	3	3	3
27	* Rutuja Wasu	5	5	3	5	5	3	5	3	3	3
28	* Samiksha Dawande	5	3	5	5	3	3	5	3	3	3
29	* Sanket Pempakwar	5	5	5	5	5	5	3	3	5	3
30	* Saurabh Dhote	5	5	5	3	5	5	3	3	5	3
31	* Shivani D. Jirapure	5	5	3	5	5	5	5	3	5	5
32	* Shivani Dahake	5	5	3	5	5	5	3	5	5	5

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

Students Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,3,1,1 . (5. Excellent 3.Very Good, 3. Good, 1. Satisfactory and 1 Poor)

Roll No	Name of Students	QUESTIONNAIRES FOR THE STUDENT SATISFACTION SURVEY									
		Q. 1 How much of the syllabus was covered in the class?	Q.2 How well did the teachers prepare for the classes?	Q.3 How well were the teachers able to communicate?	Q.4 The teacher's approach to teaching can best be described as	Q.5 Fairness of the internal evaluation process by the teachers.	Q.6 Was your performance in assignments discussed with you?	Q.7 The institute takes active interest in promoting internship, student exchange, field visit opportunities for students.	Q.8 The teaching and mentoring process in your institution facilitates you in cognitive, social and emotional growth.	Q.9 The institution provides multiple opportunities to learn and grow.	Q.10 Teachers inform you about your expected competencies, course outcomes and programme outcomes.
33	* Shivani Khade	5	5	5	3	5	5	3	5	5	5
34	* Shivdas Pendor	5	5	5	5	5	5	3	5	3	5
35	* Shivgauri kubde	1	1	1	1	1	1	1	1	1	1
36	* Shubhada thakare	5	3	5	5	3	3	5	5	3	3
37	* Shubham Shrikhande	5	3	5	5	3	5	5	5	3	3
38	* Shweta S. Sharma	5	3	3	5	3	3	5	5	5	5
39	* Sneha futane	5	5	3	5	5	5	3	5	5	5
40	* Snehal Bundile	5	5	3	3	5	3	3	5	5	5
41	* Sunaina pohare	5	5	5	5	5	5	3	5	5	5
42	* Suvidha Ganoskar	5	5	5	3	5	5	5	5	5	3
43	* Vaishnavi Kubde	5	5	5	5	5	3	5	5	5	5
44	* Vaishnavi Prajapati	5	5	5	5	5	5	3	5	5	3
45	* Vaishnavi Tawalare	5	5	5	5	5	5	3	5	3	3
46	* Vijeta Meshram	5	5	3	5	5	5	3	5	3	3
47	* Sanket Wasankar	5	5	3	5	5	5	3	5	3	5
48	* Namrata Khawale	5	5	3	5	5	5	3	3	5	5
49	* Mayur Sonar	5	5	5	5	5	3	5	3	5	5

Q.11 Your mentor does a necessary follow-up with an assigned task to you.	Q.12 The teachers illustrate the concepts through examples and applications.	Q.13 The teachers identify your strengths and encourage you with providing right level of challenges.	Q.14 Teachers are able to identify your weaknesses and help you to overcome them.	Q.15 The institution makes effort to engage students in the monitoring, review and continuous quality improvement of the teaching learning process.	Q.16 The institute/ teachers use student centric methods, such as experiential learning, participative learning and problem-solving methodologies for enhancing learning experiences.	Q.17 Teachers encourage you to participate in extracurricular activities.	Q.18 Efforts are made by the institute/ teachers to inculcate soft skills, life skills and employability skills to make you ready for the world of work.	Q.19 What percentage of teachers use ICT tools such as LCD projector, Multimedia, etc. while teaching?	Q.20 The overall quality of teaching-learning process in your institute is very good.
5	3	5	5	5	5	5	5	3	5
3	3	3	3	3	3	3	3	3	3
5	5	5	5	5	5	5	5	5	5
3	3	3	3	3	3	3	3	3	3
5	3	3	5	5	5	5	5	3	5
3	3	3	3	3	3	3	3	3	3
5	5	5	5	3	5	3	5	5	5
3	3	5	5	5	5	3	5	3	5
3	3	5	5	5	5	3	3	3	5
3	5	3	5	5	5	3	3	5	5
3	5	5	5	5	5	5	3	5	5
5	3	5	3	5	5	5	3	3	5
3	5	5	3	3	5	5	3	5	5
5	5	5	3	3	5	5	3	5	3
5	5	5	3	5	5	3	5	5	3
5	3	3	5	5	3	5	5	3	5
5	5	5	5	5	3	3	5	5	5
5	5	5	5	5	3	3	5	5	5
3	5	5	5	5	3	5	5	5	3
3	5	5	5	5	5	5	5	5	3
3	3	3	5	3	5	3	5	3	3
5	5	5	3	3	3	5	3	5	5
5	1	5	3	3	3	3	5	1	3
5	5	5	5	3	3	3	5	5	3
5	5	5	5	3	3	5	3	5	3
5	3	5	5	3	5	3	3	3	3
3	5	3	5	5	1	3	3	5	5
5	3	3	3	5	5	3	5	3	5
5	5	5	5	5	3	5	5	5	5
5	5	5	3	3	3	3	5	5	3
3	5	5	5	3	1	3	3	5	5
3	5	5	3	3	3	5	3	5	5

Q.11 Your mentor does a necessary follow-up with an assigned task to you.	Q.12 The teachers illustrate the concepts through examples and applications.	Q.13 The teachers identify your strengths and encourage you with providing right level of challenges.	Q.14 Teachers are able to identify your weaknesses and help you to overcome them.	Q.15 The institution makes effort to engage students in the monitoring, review and continuous quality improvement of the teaching learning process.	Q.16 The institute/ teachers use student centric methods, such as experiential learning, participative learning and problem-solving methodologies for enhancing learning experiences.	Q.17 Teachers encourage you to participate in extracurricular activities.	Q.18 Efforts are made by the institute/ teachers to inculcate soft skills, life skills and employability skills to make you ready for the world of work.	Q.19 What percentage of teachers use ICT tools such as LCD projector, Multimedia, etc. while teaching?	Q.20 The overall quality of teaching-learning process in your institute is very good.
5	5	3	5	5	5	5	5	5	3
5	5	3	5	3	3	3	5	5	3
1	1	1	1	1	1	1	1	1	1
5	3	5	5	5	3	3	3	3	5
5	3	5	5	5	5	3	5	3	5
3	3	3	3	5	3	3	3	3	5
3	5	3	3	5	3	5	5	5	5
3	5	5	5	5	3	3	5	5	5
5	5	5	5	5	5	3	3	5	5
5	5	3	5	3	5	3	3	5	5
5	5	3	5	3	3	3	3	5	5
5	5	5	5	3	3	3	5	5	5
5	5	5	3	3	3	3	3	5	5
3	5	3	5	3	3	5	3	5	5
3	5	3	3	3	5	5	3	5	5
3	5	3	5	5	3	5	5	5	5
5	5	5	5	5	3	5	5	5	5

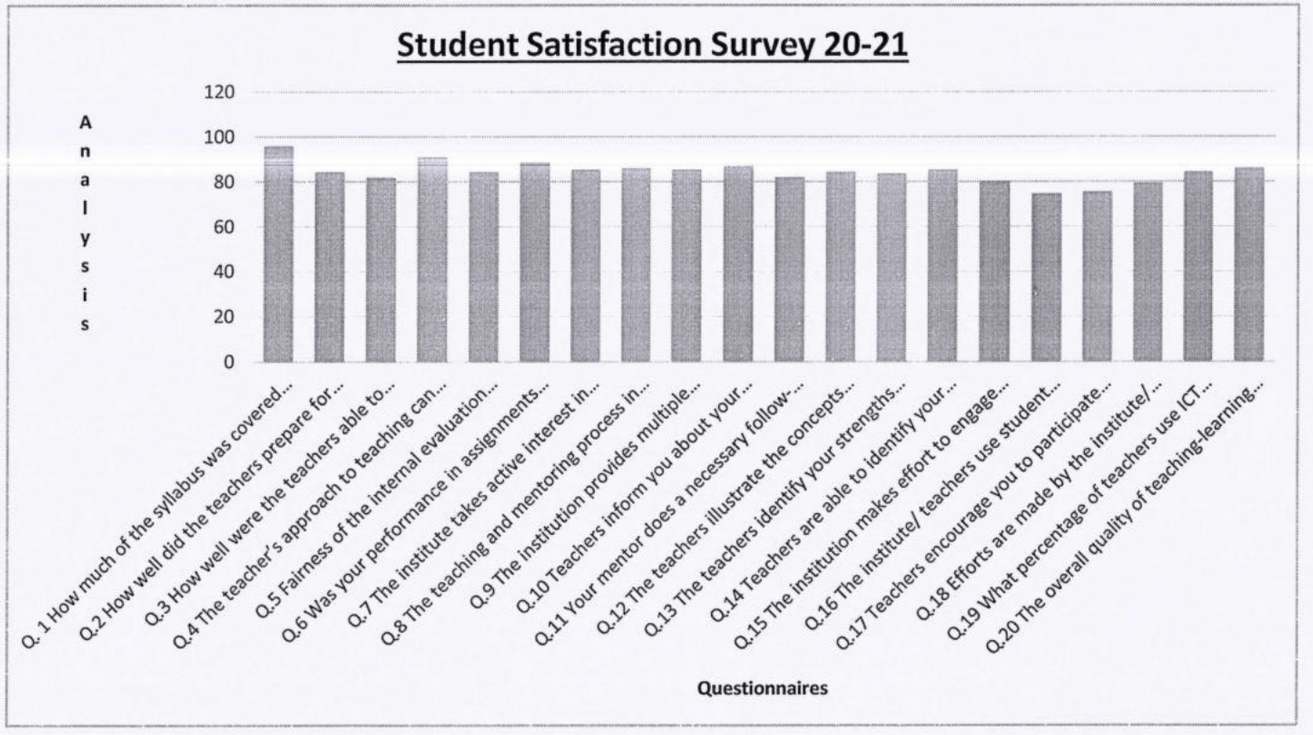
P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

Students Satisfaction Survey on Teaching - Learning Process- Session 20-21

Give the points ranging from 5,3,3,1,1 . (5. Excellent 3.Very Good, 3. Good, 1. Satisfactory and 1 Poor)

Roll No	Name of Students	QUESTIONNAIRES FOR THE STUDENT SATISFACTION SURVEY									
		Q. 1 How much of the syllabus was covered in the class?	Q.2 How well did the teachers prepare for the classes?	Q.3 How well were the teachers able to communicate?	Q.4 The teacher's approach to teaching can best be described as	Q.5 Fairness of the internal evaluation process by the teachers.	Q.6 Was your performance in assignments discussed with you?	Q.7 The institute takes active interest in promoting internship, student exchange, field visit opportunities for students.	Q.8 The teaching and mentoring process in your institution facilitates you in cognitive, social and emotional growth.	Q.9 The institution provides multiple opportunities to learn and grow.	Q.10 Teachers inform you about your expected competencies, course outcomes and programme outcomes.



H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust's
Group of Institutions College of Engg. & Management
Kathora Road, Amravati

P. R. Pote (Patil) College of Engineering & Management (PRPCEM), Amravati

Department of MCA

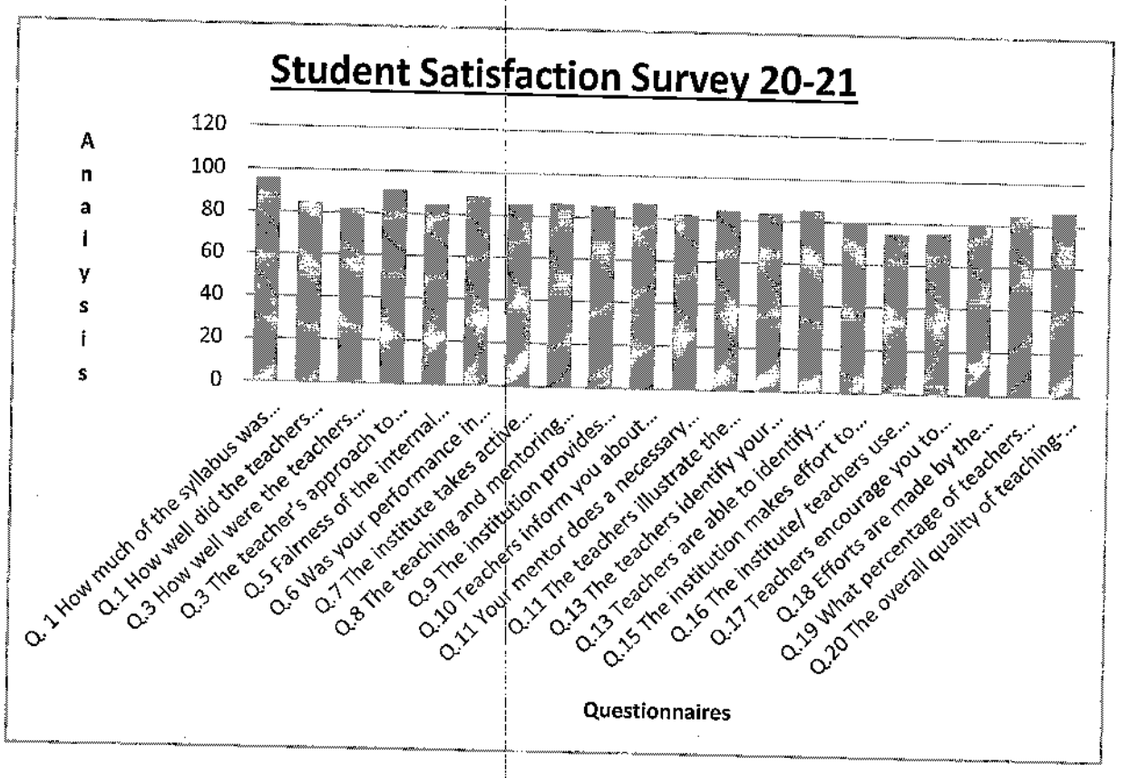
Session 2020-21

Analysis of Students Satisfaction Survey on Teaching-Learning Process

Total No of Samples: 49 Date of Analysis: May'21

Sr.No.	Particulars	% Feedback
1	Q. 1 How much of the syllabus was covered in the class?	95.92
2	Q.2 How well did the teachers prepare for the classes?	84.49
3	Q.3 How well were the teachers able to communicate?	82.04
4	Q.4 The teacher's approach to teaching can best be described as	91.02
5	Q.5 Fairness of the internal evaluation process by the teachers.	84.49
6	Q.6 Was your performance in assignments discussed with you?	88.57
7	Q.7 The institute takes active interest in promoting internship, student exchange, field visit opportunities for students.	85.31
8	Q.8 The teaching and mentoring process in your institution facilitates you in cognitive, social and emotional growth.	86.12
9	Q.9 The institution provides multiple opportunities to learn and grow.	85.31
10	Q.10 Teachers inform you about your expected competencies, course outcomes and programme outcomes.	86.94
11	Q.11 Your mentor does a necessary follow-up with an assigned task to you.	82.04
12	Q.12 The teachers illustrate the concepts through examples and applications.	84.49
13	Q.13 The teachers identify your strengths and encourage you with providing right level of challenges.	83.67
14	Q.14 Teachers are able to identify your weaknesses and help you to overcome them.	85.31
15	Q.15 The institution makes effort to engage students in the monitoring, review and continuous quality improvement of the teaching learning process.	80.41
16	Q.16 The institute/ teachers use student centric methods, such as experiential learning, participative learning and problem-solving methodologies foxr enhancing learning experiences.	75.1
17	Q.17 Teachers encourage you to participate in extracurricular activities.	75.51
18	Q.18 Efforts are made by the institute/ teachers to inculcate soft skills, life skills and employability skills to make you ready for the world of work.	79.59
19	Q.19 What percentage of teachers use ICT tools such as LCD projector, Multimedia, etc. while teaching?	84.49
20	Q.20 The overall quality of teaching-learning process in your institute is very good.	86.12

H.O.D. Dept of MCA
P.R. Pote Patil Education & Welfare Trust
Group of Institutions College of Engg. & Management
Kathora Road, Amravati


Student Satisfaction Survey 20-21
Analysis
120
100
80
60
40
20
0
Q. 1 How much of the syllabus was...
Q.1 How well did the teachers...
Q.3 How well were the teachers...
Q.3 The teacher's approach to...
Q.5 Fairness of the internal...
Q.6 Was your performance in...
Q.7 The institute takes active...
Q.8 The teaching and mentoring...
Q.9 The institution provides...
Q.10 Teachers inform you about...
Q.11 Your mentor does a necessary...
Q.11 The teachers illustrate the...
Q.13 The teachers identify your...
Q.13 Teachers are able to identify...
Q.15 The institution makes effort to...
Q.16 The institute/ teachers use...
Q.17 Teachers encourage you to...
Q.18 Efforts are made by the...
Q.19 What percentage of teachers...
Q.20 The overall quality of teaching...
Questionnaires