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

Index

Session 2019-20

3.1 Resource Mobilization for Research

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	1

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 Resource Mobilization for Research

3.1.1 Research funds sanctioned and received from various agencies, industry, and other organizations

Nature of the Project	Duration	Name of the Funding Agency	Total grant sanctioned	Amount received during the Academic year
Major projects	NIL	NIL	0	0
Minor Projects	NIL	NIL	0	0
Interdisciplinary Projects	NIL	NIL	0	0
Industry sponsored Projects	NIL	NIL	0	0
Projects sponsored by the University/ College	NIL	NIL	0	0
Students Research Projects *(other than compulsory by the College)*	NIL	NIL	0	0
International Projects	NIL	NIL	0	0
Any other(Specify)	NIL	NIL	0	0
Total	**NIL**	**NIL**	**0**	**0**

H.O.D. (Mech. Dept.)
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Amravati

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Session 2019-20

3.2 Innovation Ecosystem

3.2.1 - Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	2
2	Mechanical Engineering	3-11

3.2 Innovation Ecosystem

3.2.1 - Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia

Sr. No.	Title of Workshop/ Seminar	Name of the Dept.	Date(s)
1	"Soft Skill Required by Industries" Mr. MayurRaje	Mechanical	28/08/2019
2	"Opportunities and Scope in Electric Vehicle" by Mr. Nitin Banait	Mechanical	23/08/2019
3	"Opportunities for Engineers in Foreign Country" by Mr. Parsad Nadurkar	Mechanical	05/08/2019
4	Expert Lecture On " Innovation For Present & Future"	Mechanical	29 /02/2020
5	"Hyper loop Technology" by Mr. Aman Shukla.	Mechanical	13/02/2020
6	"Industrial skill requirements & overview of Design Training Placement Platform DTPP"	Mechanical	13/02/2020
7	'Opportunities for Mechanical engineers in design sectors'.	Mechanical	11/07/2019
8	"Combustion in S.I.Engine"	Mechanical	30/05/2020
9	"Role and Importance of Industrial Engineering in Various fields"	Mechanical	29/05/2020

for

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P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Expert Lecture on "Soft Skill Required by Industries"

Date: 28/08/2019 **Duration: 3.30 – 05.30 PM**

Report

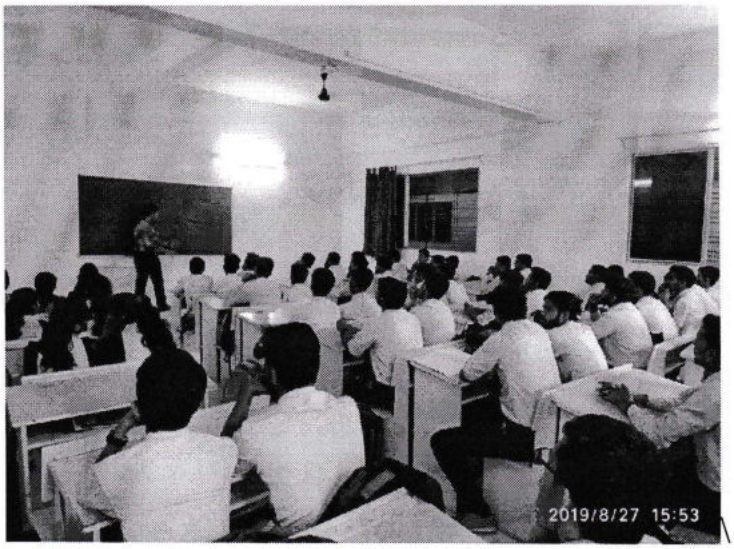
The Mechanical Engineering Department in association with IEI student organized **Expert Lecture on "Preparation Soft Skill Required by Industries"** by Mr. Mayur Raje from Mahindra CIE Automotive Ltd, Pune for Third year student. He aware student about non-technical skills required by an Engineer for excellent performance and growth in their job. Also told about opportunities in other department such as Purchase, Sales, and Administration.

Details:

Chief Guest/ Guest of Honor: Mr. Mayur Raje

Designation: Sr. Officer Purchase, Mahindra CIE Automotives Ltd., Pune

Photographs with caption:



S.Y.Deshmukh
Program Coordinator

V.G.Gore
HOD

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

P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Expert Lecture on "Electric Vehicle"

Date: 23/08/2019 **Duration: 11.00 – 1.00 PM**

Report

The Mechanical Engineering Department in association with IEI student chapter & III Cell organized Expert lecture on "Electric Vehicle" by Mr. Nitin Banait. He did his Ph.D. from IIT Bombay after that worked with Ansys Pvt Ltd, Pune. Currently he is working as Academics Head at Khodiyar CAD Pvt Ltd. He speaks about over scenario of Electra vehicle in India and around the world. He told about various opportunities for student as well as faculty of Research in Electric Vehicle.

Details:

Chief Guest/ Guest of Honor: Mr. Nitin Banait

Designation: Acadamic Head, Khodiyar CAD Pvt Ltd.

Photographs with caption:





Program Coordinator

HOD

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Amravati.

P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Expert Lecture on "Opportunities for Engineers in Foreign Country"

Date : 05/08/2019 **Duration: 3.30 – 5.30 PM**

Report

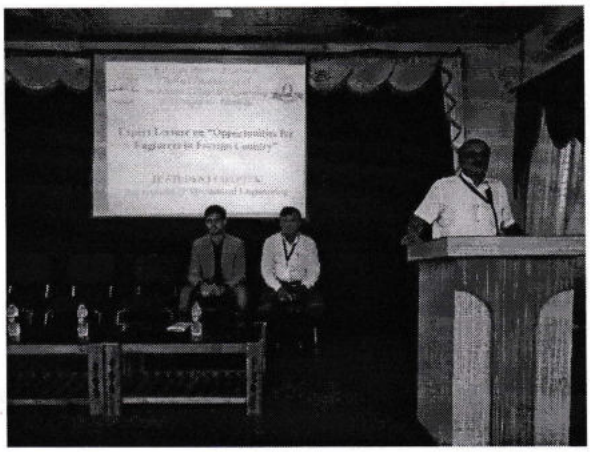
The IEI student chapter of Mechanical Engineering Department organized **Expert Lecture on "Opportunities for Engineers in Foreign Country"** by Mr. Parsad Nadurkar on 05 Aug. 2019. He did his MS from Germany & currently working as System Engineer at Audi Automotives, Germany. He guided the students on how to prepared & apply for higher studies in foreign country. He also told about some universities which are providing education free of cost. He suggested student to prepare for IELT instead of GRE/TOFEL. He also told that there are job opportunities for Mechanical engineers in Germany if they know German language.

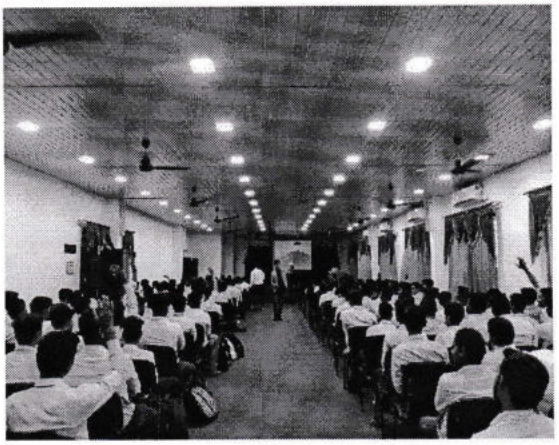
Details:

Chief Guest/ Guest of Honor: Mr. Prasad Nandurkar

Designation: System Engineer, Audi Automotive, Germany

Photographs with caption:





Program Coordinator

HOD

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

P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Expert Lecture on "Innovation for Present & Future"

Date: 29/02/2020 **Duration: 8.55 – 12.00 PM**

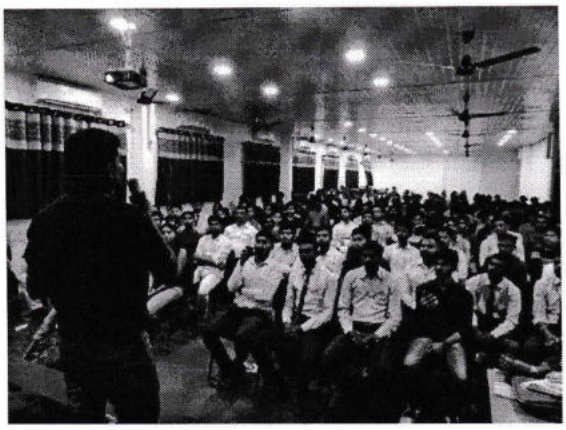
Report

Mr. Nilesh Rambhau Rahate done his M.Architecture (Industrial Design) - SPA New Delhi. He has huge academics & design experience with many patents. He is Member of Indian Youth delegation to china 2007. He has designed & commercialized Laptop Stand, Filed 110 IPR (Design Registrations) & Cost Effective Housing techniques & developments. He aware student about drawback of conventional thinking & living life in comfort zone. Also told student about barrier to innovative thinking & how to break those barriers. He inspired them for entrepreneurship & developing own venture.

Details:

Chief Guest/ Guest of Honor: Mr. Nilesh Rambhau Rahate

Designation: M.Architecture (Industrial Design)- SPA New Delhi





S. J. Deshmukh
Program Coordinator

for Dr. V. G. Gore
HOD

H.O.D. (Mech. Dept.)
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Amravati.

P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Expert Lecture on "Hyperloop Technology"

Date : 13/02/2020 **Duration: 11.00 – 1.00 PM**

Report

The Mechanical Engineering Department in association with IEI student chapter organized Expert lecture on **"Hyper loop Technology"** by **Mr. Aman Shukla**. He give the introduction of Hyperloop Technology. A Hyperloop is a proposed mode of passenger and freight transportation. He also focused on career opportunities for Mechanical Engineers in Design Sectors.

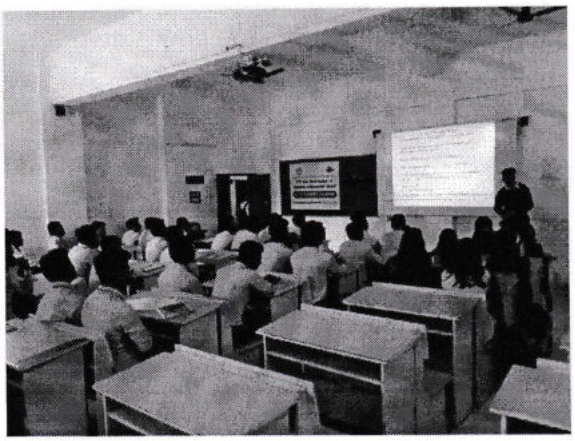
Details:

Chief Guest/ Guest of Honor: Mr. Aman Shukla

Designation: Business Development Office, CAD CAM Guru, Pune.

Photographs with caption:





S.S. Deshmukh
Program Coordinator

V.G. Ghone
HOD

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Title /Theme: Expert Lecture on "Industrial skill requirements & overview of Design Training Placement Platform DTPP"

Date: 13/02/2020 **Duration: 11.00 – 1.00 PM**

Report

The Mechanical Engineering Department in association with IEI student chapter for second year students organized Expert lecture on "**Industrial skill requirements & overview of Design Training Placement Platform DTPP**" by Mr. Shubham Somani. Mechanical Engineering Department signed MoU with Indo Vidharbh Tool Room (IVTR), Akola for training and placement of students.

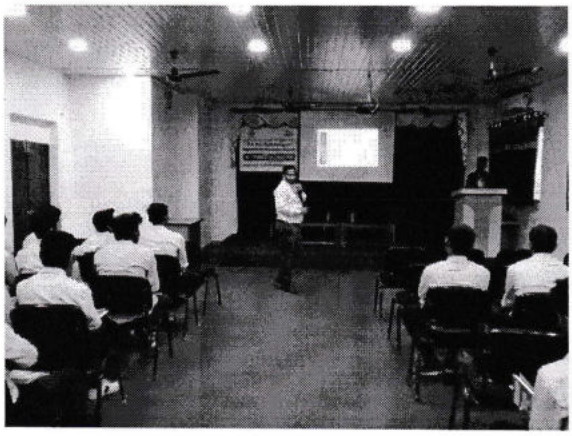
First batch having 21 students of third year is started and campus drives will be organized by IVTR for these students during their final Year. He also focused on career opportunities for Mechanical Engineers in Design Sectors.

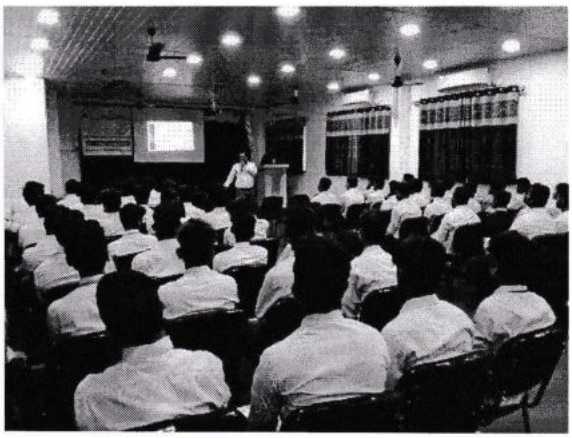
Details:

Chief Guest/ Guest of Honor: Mr. Shubham Somani

Designation: Founder, Indo Vidharbh Tool Room, Akola.

Photographs with caption:





S.J. Deshmukh
Program Coordinator

V.G.Gore
HOD

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

P.R.Pote College of Engineering & Technology Amravati

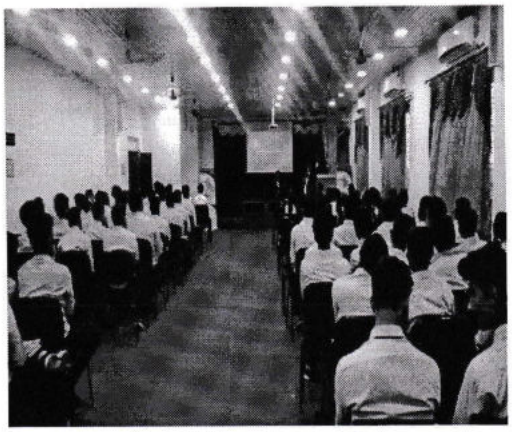
Title /Theme: Expert Lecture on Opportunities for Mechanical engineers in design sectors'

Date: 11/07/2019 **Duration: 11.00 – 1.00 PM**

Report

Expert talk deliverd by Mr..Shubham Somani , Director IVTR Akola, on **'Opportunities for Mechanical engineers in design sectors'**. He guides the students regarding design, training and placement platform designed by his organisation. Also he suggest some software training programmes to have better opportunity in design sector.





S.T. Deshmukh
Program Coordinator

V.G. Gone
HOD

H.O.D. (Mech. Dept.)
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Amravati.

P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Webinar on "***Role and Importance of Industrial Engineering in Various fields"***

Date: 29/05/2020 **Duration: 11.00 – 1.00 PM**

Report

Webinar on "Role and Importance of Industrial Engineering in Various fields" is conducted by the Department of Mechanical Engineering on dated 29th May 2020.The webinar Speaker is **Dr.C.D.Mohod**; He is H OD of Mechanical Department **G.G.S.C.E&R.C.Nashik.** More than 100 Participant from our College and some other College attended this Webinar. In this webinar speaker wonderfully explain the Role and Importance of Industrial Engineering in various fields of engineering and the entire participant enjoyed it.



S.J. Deshmukh
Program Coordinator

for D.V.Gore
HOD

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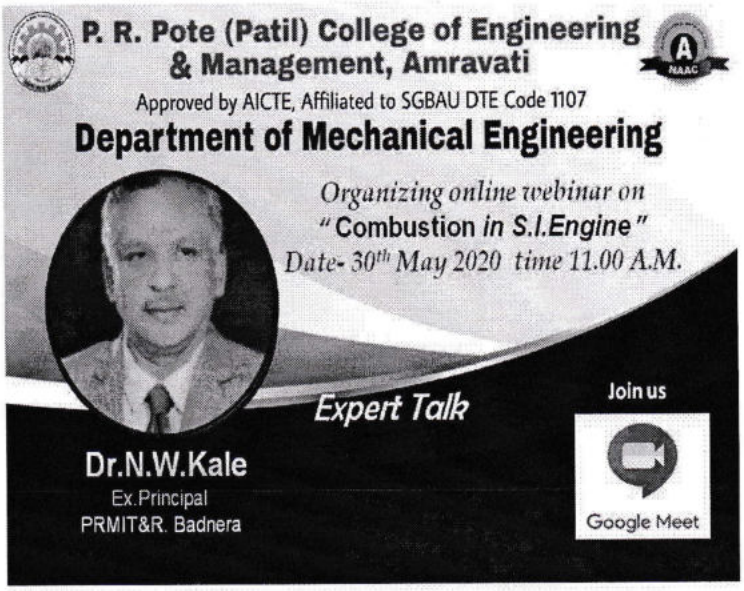
P.R.Pote College of Engineering & Technology Amravati

Title /Theme: Webinar on ***"Combustion in S.I.Engine"***

Date: 30/05/2020 **Duration: 11.00 – 1.00 PM**

Report

Webinar on ***"Combustion in S.I.Engine"*** is conducted by the Department of Mechanical Engineering on dated 30th May 2020.The webinar Speaker is Dr.N.W.Kale; He is Ex. Principal of PRMIT&R. Badnera, More than 100 Participant from our College and some other College attended this Webinar. In this webinar speaker wonderfully explain the combustion of fuel in S.I.Engine and the entire participant enjoyed it.



Program Coordinator

HOD

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Amravati

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

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Session 2019-20

3.2.2 - Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	12-13
2	EXTC Department	14-20
3	Electrical Department	21-24
4	Mechanical Department	25-31
5	Computer Department	32-33
6	First Year Department	34

3.2.2 - Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Sr. No.	Title of the Innovation	Name of the Department	Awarding Agency	Date of Award	Category
EXTC Department					
01.	Raspberry pi Based Reader for Blind Person.	(Arjun Chauhan) E&TC Engg.	Avishkar Foundation (NGO)	09/06/2020	Online Project Competition
02.	A Review on Artificial Intelligence Based Traffic Light Detection System for Autonomous Car	(S.S.Sodani, H.U.Kakade, P.S.Temble, R.A.Saani, A.R.Pawade) E&TC Engg	Global Conference on Multidisciplinary Research (GCMR) -2019	08/11/2019	Conference
03	Raspberry pi Based Reader for Blind Person.	(Mr. Arjun Chauvan, Aditya A. Aherkar, Shivam S. Motharkar, Piyush Bhatkar and Ajay Mishra) E&TC Engg	P. R. Pote (Patil) Group of Educational Institutions, Amravati.	21/01/2020	Techelons-2020 Project Competition
04	Automatic Public Washroom Cleaning System Using IoT	(Vikas konge, Shrutika Yenkar, Gopal Kale, Nayan Chandure, Sneha Kubde, Siddheshwar Dhole) E&TC Engg	P. R. Pote (Patil) Group of Educational Institutions, Amravati.	21/01/2020	Techelons-2020 Project Competition
05	AI based Autonomous Car	(Sanjay Sodhani, Pratik Temble) E&TC Engg	P. R. Pote (Patil) Group of Educational Institutions, Amravati.	21/01/2020	Techelons-2020 Project Competition
06	AI based Autonomous Car	(Sanjay Sodhani) E&TC Engg	Sipna College of Engineering, Amravati	07/02/2020	National Level Techfest, Vidyotan-2020
07	AI based Autonomous Car	(Sanjay Sodhani) E&TC Engg	P. R. Pote (Patil) Group of Educational Institutions, Amravati.	21/01/2020	Paper Presentation, Techelons-2020
Electrical Department					
01.	Blind Stick	(EE Deptt)	Spakal College of Engineering, Nasik	18/07/20	Project
Mechanical Department					
01.	Sensible Solar Water Heating System.	Parth Vilas Deshpande, (ME Deptt.)	SGBAU, Amravati University	14/01/ 2020	Project
02.	Sensible Solar Water Heating System	Parth Vilas Deshpande, (ME Deptt.)	Sipna College of Engineering, Amravati	17/02/ 2020	Project
03	Sensible Solar Water Heating System	Parth Vilas Deshpande, (ME Deptt.)	P.R.Pote Group of Institutions	20 /01/2020	Project
04	Mechanically operated urinal flushing system	Roshan Tibuade, (ME Deptt.)	.R.Pote Group of Institutions	20 /01/2020	Project

05	ALFA: Human Powered vehicle	Shubham Ghate, (ME Deptt.)	Kamalnarayan Bajaj Institute of Engineering & Technology, Baramati	08/06/ 2020	Project
06	Sensible Solar Water Heating System	Parth Vilas Deshpande, (ME Deptt.)	Govt. College of Engineering, AMravati	06/03/ 2020	Project
07	Smart Solar Water Heater	Prof. U. J. Walicha, (ME Deptt.)	Amravati Startup Business Plan Competition-2019	04/09/2019 to 05/09/2019	Project
Computer Department					
1	Prof Ajay B Gadicha	CSE	Young Researcher in Computer Science and Engineering by Global Outreach Research & Education Association Bangalore	31-07-2019	National
First Year Department					
1	Cosmological Modeling self-creation theory of gravitation	First Year Engineering Department (Teacher)	"Recent Trends in Physical and Mathematical Science" Shri. Shivaji College of Arts and Science Akola	18/01/2020	Poster Presentation
Name of Department -MBA					
01.	Business Model – Avikshar Research Competition	MBA	SGBAU & Governor Office	16/12/2019	Teacher

for

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

AVISKAR FOUNDATION
Change We Need

AVISKAR FOUNDATION

REG. NO. : MAH/29/2020

Certificate of Excellence



This Certificate is Presented To

Mr./Ms. *Arjun Pratapsingh Chauhan*

has actively participated in the **Aviskar Awards 1.0** Online Project Competition held on 09/06/2020 and Secured **Second Prize.**

Organized by **Aviskar Foundation (NGO).**

Mr. Akshay R. Kawale	Ms. Pranali P. Ughade	Mr. Abhijeet V. Lonare
President	Vice-President	Secretary
Aviskar Foundation	Aviskar Foundation	Aviskar Foundation

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

Global Conference on Multidisciplinary Research

GCMR-2019

7th & 8th November 2019

BEST PAPER AWARD CERTIFICATE

The Best Paper Award is presented to:

1. Dr./Mr./Miss S. S. Sodani (Name of Author)
2. Dr./Mr./Miss H. U. Kakade (Name of Author)
3. Dr./Mr./Miss P. S. Temble (Name of Author)
4. Dr./Mr./Miss R. A. Saani (Name of Author)
5. Dr./Mr./Miss A. R. Pawade (Name of Author)

For your outstanding paper entitled: A Review on Artificial Intelligence Based Traffic Light Detection System for Autonomous Car.

This was presented at the GCMR-2019:

Track Name: ICATETE 2019

Dr. S. B. Warkad	**Dr. Mrs. S. D. Wakde**	**Dr. A. D. Bhoyar**
Conference Coordinator GCMR-2019	General Chair GCMR-2019	Conference Coordinator GCMR-2019



Certificate

CERTIFICATE

This is to certify that Mr/Miss Arjun Chauhan

has actively participated in/organized the event Project Exhibition of TECHELONS - 2020

National Level Tech-Fest and secured I st rank.

Dr. Mohammad Zuhair	Dr. S.D. Wakde	Dr. D.G. Wakde	Dr. S. A. Ladhake
Principal, PRPIER	Principal, PRPCEM	Principal, PRPCET	Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

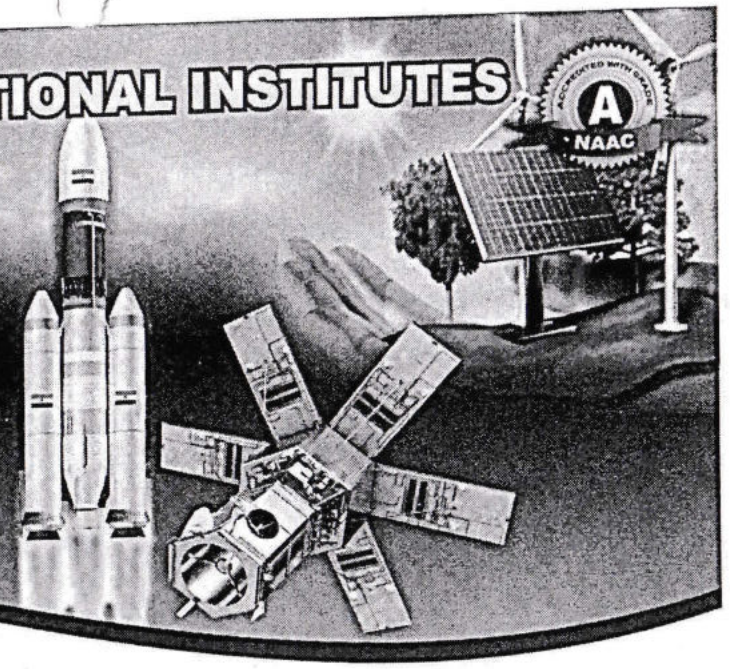
P. R. POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES

NATIONAL LEVEL EVENT

TECHELONS 2020

"Step to pioneer"

20 & 21 JANUARY 2020



Certificate

CERTIFICATE

This is to certify that Mr/Miss Vikas Konge

has actively participated in/organized the event Project Exhibition of TECHELONS - 2020

National Level Tech-Fest and secured IInd rank.

Dr. Mohammad Zuhair	Dr. S.D. Wakde	Dr. D.G. Wakde	Dr. S. A. Ladhake
Principal, PRPIER	Principal, PRPCEM	Principal, PRPCET	Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

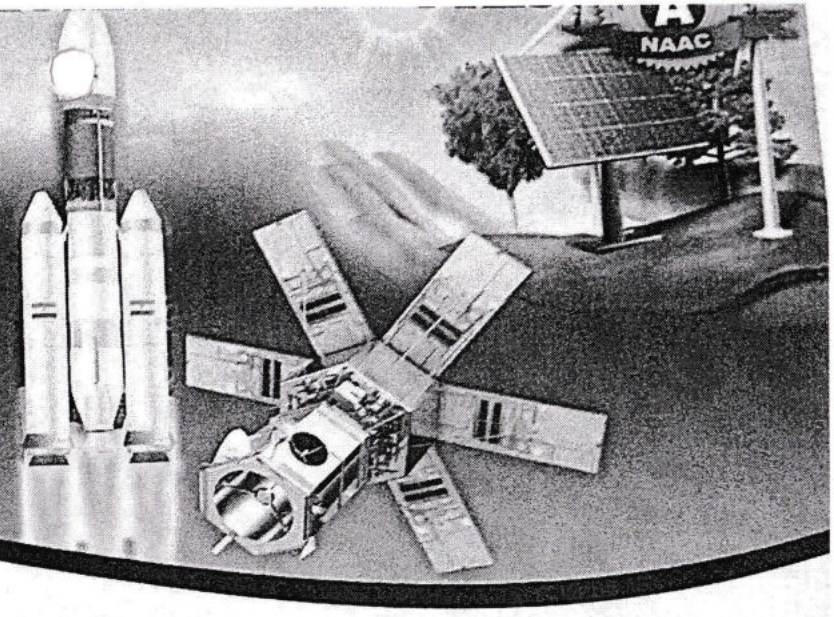
P. R. POTE (PATIL) GROUP OF EDUCATION

NATIONAL LEVEL EVENT

TECHELONS 2020

"Step to pioneer"

20 & 21 JANUARY 2020



Certificate

This is to certify that Mr/~~Miss~~ Sanjay S. Sodani & Group (18)

has actively participated in/organized the event project competition of TECHELONS - 202

National Level Tech-Fest and secured 1st rank.

Dr. Mohammad Zuhair	Dr. S.D. Wakde	Dr. D.G. Wakde	Dr. S. A. Ladhake
Principal, PRPIER	Principal, PRPCEM	Principal, PRPCET	Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

SIPNA COLLEGE OF ENGINEERING AND TECHNOLOGY, AMRAVATI

Space, the final frontier...

VIDYOTAN 2020

to infinity and beyond ! 7TH FEBRUARY

Certificate

This is to certify that

Mr./Ms. Sanjay. sodani

stood as a ~~Winner~~/R~~unner~~ in Spazio event

in Vidyotan 2020, a National Level Techfest.

Dr. Ashwini V. Malviya
Convener, Vidyotan 2020

Dr. Sanjay M. Kherde
Principal

P. R. POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES

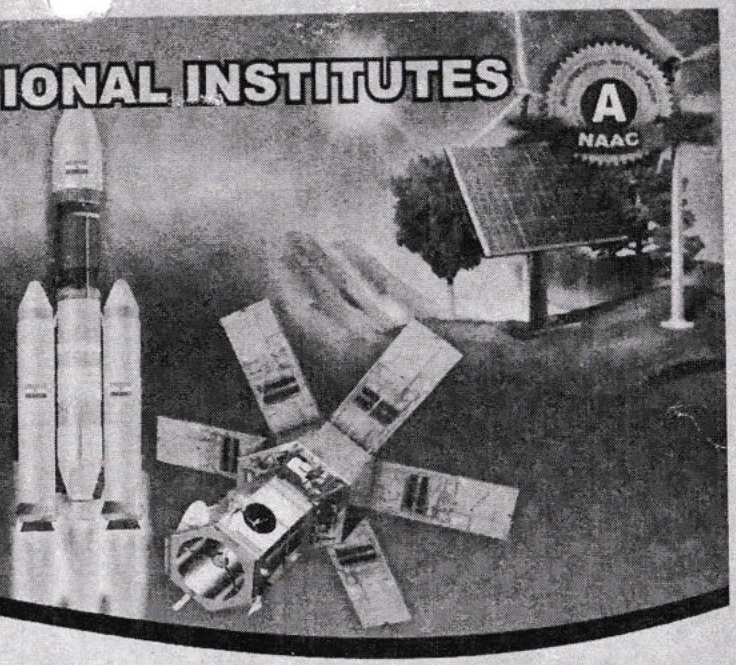
A NAAC

NATIONAL LEVEL EVENT

TECHELONS 2020

"Step to pioneer"

20 & 21 JANUARY 2020



Certificate

CERTIFICATE

This is to certify that Mr/Miss Sanjay Sodani

has actively participated in/organized the event paper presentation of TECHELONS - 2020

National Level Tech-Fest and secured First rank.

Dr. Mohammad Zuhair	Dr. S.D. Wakde	Dr. D.G. Wakde	Dr. S. A. Ladhake
Principal, PRPIER	Principal, PRPCEM	Principal, PRPCET	Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

20

47

3.2.2

~~3.4.2~~ - **Awards and recognition received for extension activities from Government and other recognized Institutions**

Name of the Activity	Award/ recognition	Awarding bodies	No. of Students benefited
Project Competition	Winner (1ST Prize)	Sapkal C.O. E. Nasik	6

Pathak

H.
P.R.Pote (Patil, ... Amravati.

Project name:-TEAM TECH EYE

This E-stick is one solution for ordinary stick. It is designed to guide a visually impaired person to walk and avoid bumping into obstacles also to avoid major accidents of blind people due to intense traffic.

Electronic circuit is attached with blind persons stick which can detect the obstacle come in front of the stick. It gives alarm if it detect obstacle in front of it. Monitoring distance between stick and obstacle can set by using gain controlling switch. Many accidents occur due to intense traffic. It is very difficult for blind people for path finding without others help. Low cost ultrasonic sensors with a micro controller is used to measure the distance to obstacles and if they are close enough provide a feedback to the user in the form of speaker and vibrations. To know about the need of such tool we made a filed survey of visually impaired persons. We also have visited 1 blind school & 2 ngo to made reached upto maximum number of blind people.

Project Members:-

1.Sakshi Hirulkar
2.Kanchan Gaikwad
3.Akash Sundarkar
4. Ajinkya Gawande

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

Kalyani Charitable Trust's

Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik - 422 213
Ph. No: 02594 220167/ 68/ 69, Fax No: 02594 220174

SAPKAL KNOWLEDGE HUB®

SKH Project e-Competition 2020

CERTIFICATE OF EXCELLENCE

This is to certify that Mr./ Miss Akash Sundarkar

of P. R. Pote College Of Engineering & Management, Amravati has participated and secured

1st prize in the online "SKH Project e-Competition 2020" held at KCT's Late

G. N. Sapkal College of Engineering, Anjaneri, Nashik. Between 25th May 2020 to 10th July 2020.

Prof. Ravindra N. Baji
Chief Coordinator

Prof. (Dr.) Sahebrao B. Bagal
Principal

Dr. Ravindra G. Sapkal
CMD, Kalyani Charitable Trust

99.1.jpg

Kalyani Charitable Trust's

Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik - 422 213

Ph. No: 02594 220167 / 68 / 69, Fax No: 02594 220174

SAPKAL KNOWLEDGE HUB

B NAAC

SKH Project e-Competition 2020

CERTIFICATE OF EXCELLENCE

This is to certify that Mr./ Miss Sakshi Hirulkar

of P. R. Pote College Of Engineering & Management, Amravati has participated and secured

1st prize in the online "SKH Project e-Competition 2020" held at KCT's Late G. N. Sapkal College of Engineering, Anjaneri, Nashik, Between 25th May 2020 to 10th July 2020.

Prof. Ravindra N. Baji
Chief Coordinator

Prof. (Dr.) Sahebrao B. Bagal
Principal

Dr. Ravindra G. Sapkal
Hon. Kalyani Charitable Trust

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

01. **SGBAU, Amravati University:**



SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

14th Intra-University Student Research Convention

AVISHKAR 2019

The expression of creativity

CERTIFICATE OF PARTICIPATION

This is to certify that Mr. /Ms. /Mrs. Parth Vilas Deshpande of P.R. Pote College of Engg. and Mgmt Amravati has participated in 14th Intra-University Student Research Convention **"AVISHKAR-2019"** in the Category of Engg Tech at UG/PG/PPG/TH level Organized by Sant Gadge Baba Amravati University, Amravati during January 14-15, 2020.

Dr. T. R. Deshmukh
Registrar

Dr. D. T. Ingole
Director, IILs

Dr. A. S. Aswar
Convener

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

14th Intra-University Student Research Convention

AVISHKAR 2019

The expression of creativity

CERTIFICATE OF MERIT

This is to certify that Mr. /~~Ms.~~ /~~Mrs.~~ Parth Vilas Deshpande of P.R. Pote College of Engg & Management, Amravati has participated in 14th Intra University Student Research Convention "AVISHKAR-2019" held at Sant Gadge Baba Amravati University, Amravati during January14-15,2020. His/Her research project entitled Sensible Solar Water heater System Under the Category of ET has been Awarded First Prize/~~Second Prize~~ at UG/ ~~PG/PPG/TH~~ Level.

Dr. T. R. Deshmukh	Dr. D. T. Ingole	Dr. A. S. Aswar
Registrar	Director, IILs	Convener

2. Sipna College of Engineering, Amravati



SIPNA COLLEGE OF ENGINEERING AND TECHNOLOGY, AMRAVATI

Space, the final frontier...

VADYOTAN 2020

to infinity and beyond ! 7th FEBRUARY

Certificate

This is to certify that

Mr./Ms. Parth Deshpande

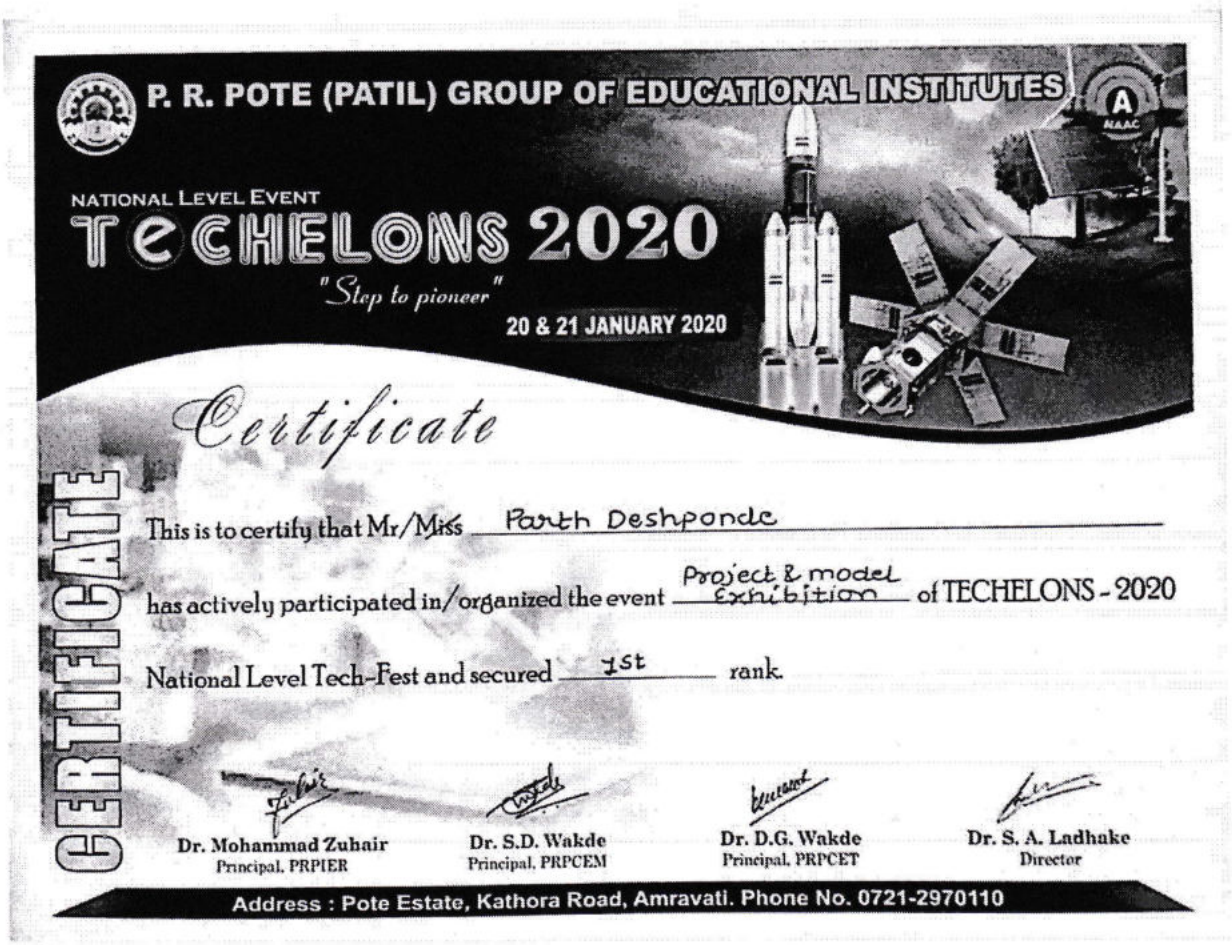
stood as a Winner/~~Runner~~ in Make-A-Thon event

in Vidyotan 2020, a National Level Techfest.

Dr. Ashwini V. Malviya
Convener, Vidyotan 2020

Dr. Sanjay M. Kherde
Principal

3.P.R.Pote Group of Institution:



P. R. POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES

NATIONAL LEVEL EVENT

TECHELONS 2020

"Step to pioneer"

20 & 21 JANUARY 2020

Certificate

CERTIFICATE

This is to certify that Mr/Miss Parth Deshpande

has actively participated in/organized the event Project & model Exhibition of TECHELONS - 2020

National Level Tech-Fest and secured 1st rank.

Dr. Mohammad Zuhair
Principal, PRPIER

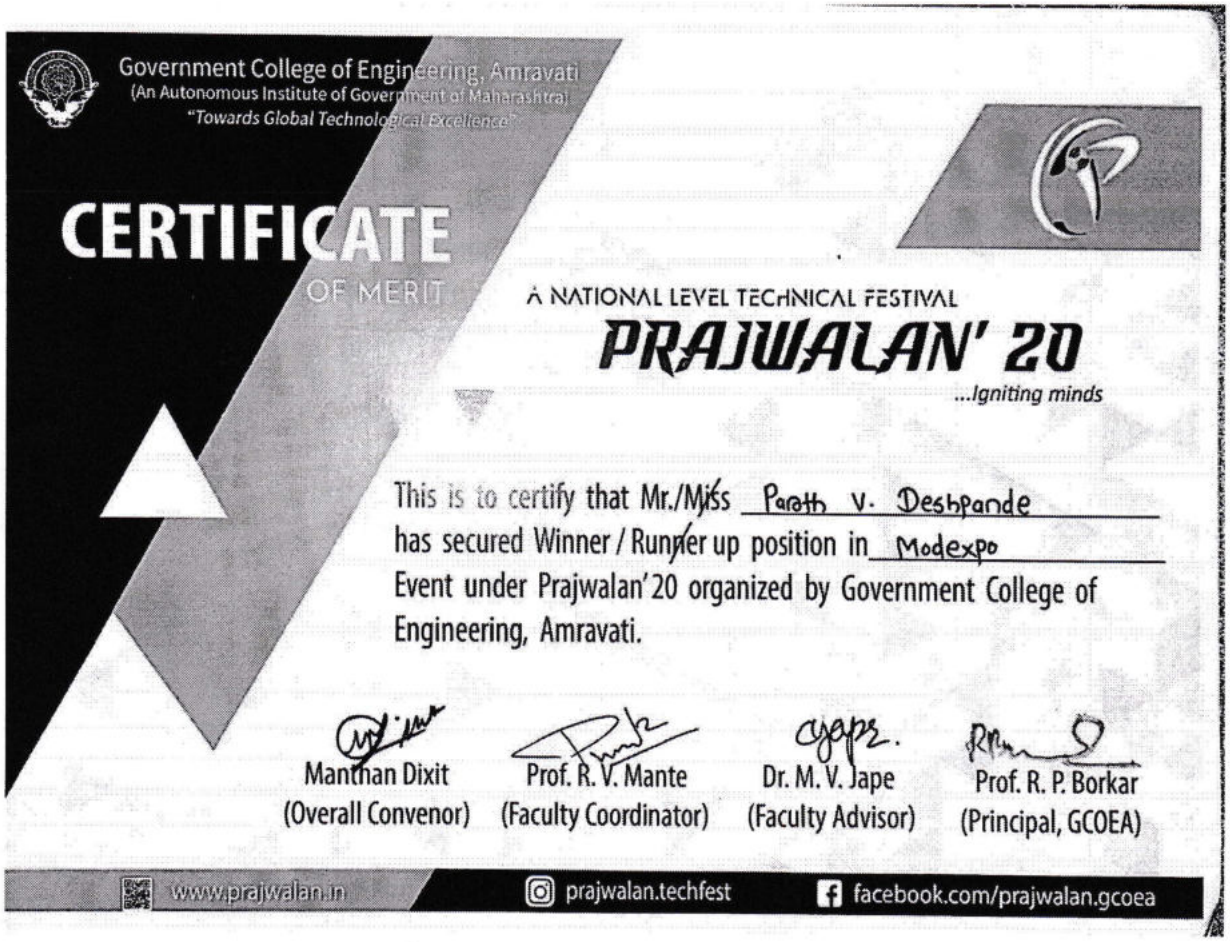
Dr. S.D. Wakde
Principal, PRPCEM

Dr. D.G. Wakde
Principal, PRPCET

Dr. S. A. Ladhake
Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

4: Government College of Engineering Amravati



Government College of Engineering, Amravati
(An Autonomous Institute of Government of Maharashtra)
"Towards Global Technological Excellence"

CERTIFICATE
OF MERIT

A NATIONAL LEVEL TECHNICAL FESTIVAL

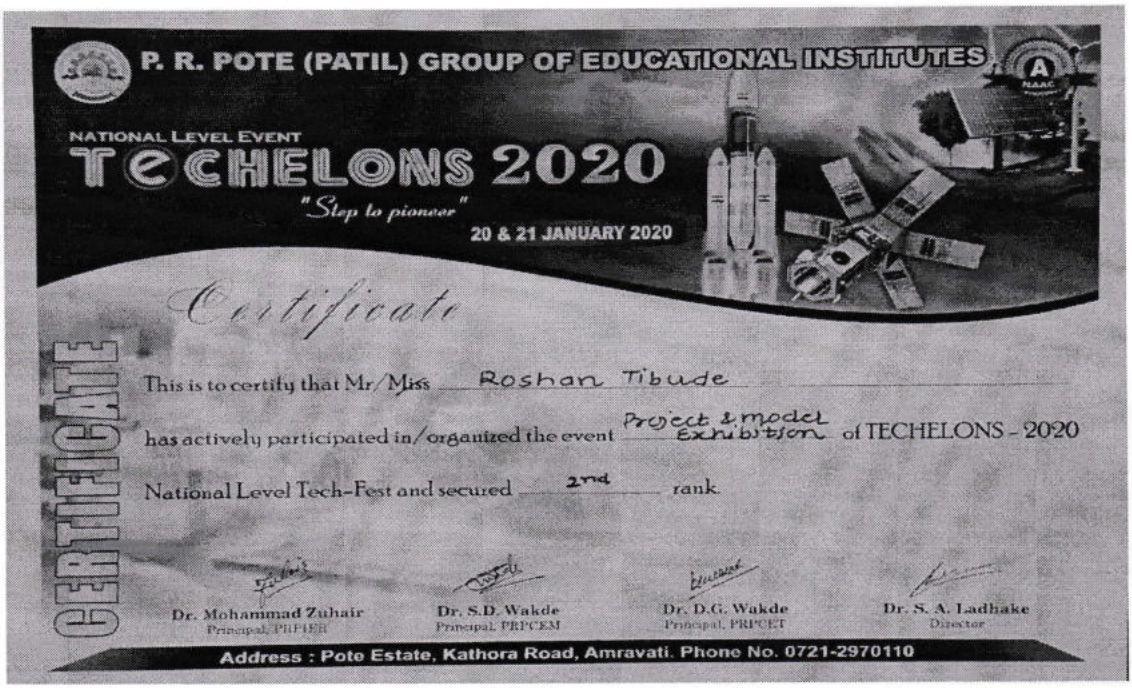
PRAJWALAN' 20
...Igniting minds

This is to certify that Mr./Miss Parth V. Deshpande
has secured Winner / Runner up position in Modexpo
Event under Prajwalan'20 organized by Government College of Engineering, Amravati.

Manthan Dixit	Prof. R. V. Mante	Dr. M. V. Jape	Prof. R. P. Borkar
(Overall Convenor)	(Faculty Coordinator)	(Faculty Advisor)	(Principal, GCOEA)

www.prajwalan.in prajwalan.techfest facebook.com/prajwalan.gcoea

Mechanically operated urinal flushing system



P. R. POTE (PATIL) GROUP OF EDUCATIONAL INSTITUTES

NATIONAL LEVEL EVENT

TECHELONS 2020

"Step to pioneer"

20 & 21 JANUARY 2020

Certificate

CERTIFICATE

This is to certify that Mr/Miss Roshan Tibude

has actively participated in/organized the event Project & model exhibition of TECHELONS - 2020

National Level Tech-Fest and secured 2nd rank.

Dr. Mohammad Zuhair, Principal, PRPIER | Dr. S.D. Wakde, Principal, PRPCEM | Dr. D.G. Wakde, Principal, PRPCET | Dr. S. A. Ladhake, Director

Address : Pote Estate, Kathora Road, Amravati. Phone No. 0721-2970110

ALFA: Human Powered vehicle



Vidya Pratishthan's

Kamalnayan Bajaj Institute of Engineering and Technology, Baramati

Department of Mechanical Engineering

CERTIFICATE OF PARTICIPATION

hereby certifies that

Shubham Ghate *from*

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

has participated and submitted his project work titled

Best Project-1-ME-Major-01-Alfa-The Human Powered Vehicle..

in state level online project competition

INNOVATOR-2020

On 08th June 2020.

Dr. Vipin B. Gawande, Faculty Coordinator | Dr. P. R. Chitragar, H.O.D- Mechanical Engg. Dept. | Dr. S. M. Bhosle, Dean R & D | Dr. R. S. Bichkar, Principal

Smart Solar Water Heater:



Government of Maharashtra State Innovation Council

Regional Coordinating Institute (Vidarbha) - UNNAT BHARAT ABHIYAN

SGB Amravati University Development of Innovation, Incubation and Entrepreneurship (AUDiiE) Centre

&

Directorate of Technical Education, Maharashtra State, Mumbai

Jointly Organized

Amravati Startup

Business Plan Competition - 2019

CERTIFICATE OF ACHIEVEMENT

This is to certify that Mr. / ~~Ms~~ Manish G. Walecha.

from Amravati (Smart solar water heater)

has actively participated as a ~~Young~~ ~~innovator~~ / Senior innovator / ~~Master innovator~~

in **Amravati Startup Business Plan Competition-2019** held at Amravati during September 4-5, 2019 and is awarded with ....I^st^..... prize/Consolation prize.

Dr. Anil Bonde
Agriculture Minister, Maharashtra State
& Guardian Minister of Amravati.

Shailesh Nawal IAS
Collector Amravati

CIN : U80902RJ2018NPL063169
Licence Number : 113255
PAN : AAHCG5759J
UAN : RJ17D0123590

GLOBAL OUTREACH RESEARCH & EDUCATION ASSOCIATION

(Registered, Under the Section 8 of the Companies Act, 2013, Goverment of India)
(Registered, Under the Ministry of Micro, Small & Medium Enterprises, Government of India)

Ref.: GOREA/0000/IL/0064

Date: 20/07/2019

To,

Mr. Ajay B. Gadicha,
(P. R. Pote College of Engineering & Management, Amravati, Maharashtra, India)

Subject : Invitation Letter For 3rd Global Outreach Research and Education Summit & Awards 2019

Heartiest Congratulations..!!

On behalf of the Global Outreach Research & Education Association (GOREA), I am pleased to inform you that you have been selected for **Global Outreach Research Award 2019** for excellence in **Young Researcher in Computer Science and Engineering**. This award is for the recognition of continue excellence in research industry who showcase the high academic goals and outstanding achievements through development, innovation, leadership, dedication and commitment towards learning.

3rd Global Outreach Research and Education Summit & Awards 2019 being hosted on 31st July 2019 at Krishna Summit Banquet Hall, Bengaluru. The theme of this summit is aptly named "Discussion on Global Higher Research and Education Challenges & Opportunities".

The Global Outreach Research & Education Association has firmly established a leadership role in research & education sector.

The Global Outreach Research & Education Association (GOREA) is a global organization of educationists, technologists, industrialists, business leaders and policymakers that work to create and sustain an environment conducive to the growth of research & education industry. It promotes and provides accreditation, certification, technical advancement, entrepreneurship and skill development.

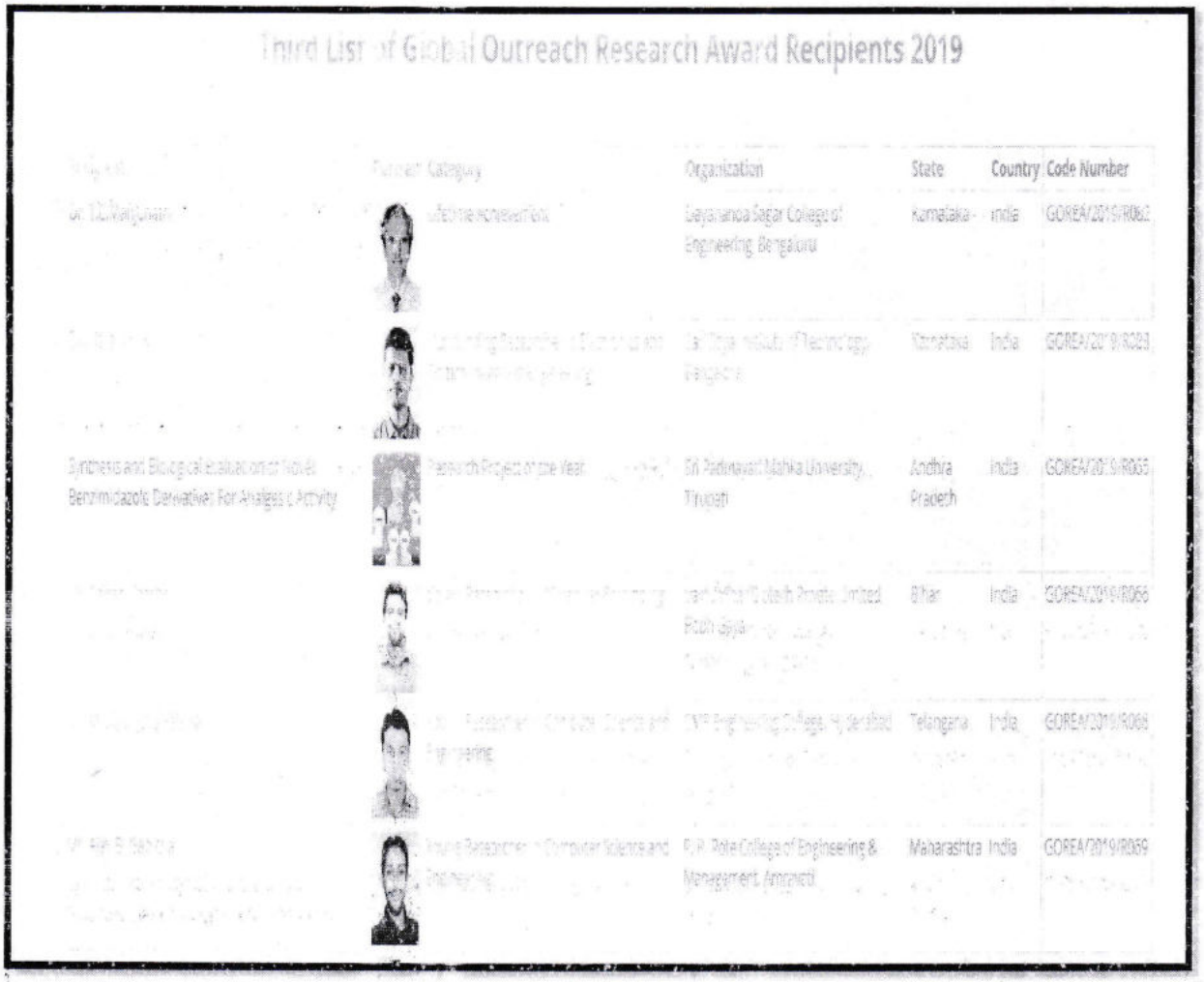
Please contact me if you need further information.

Thanks & Regards,

Mr. Rakesh Kumar
(Founder and CEO)
Global Outreach Research & Education Association

Dr. Ajay B Gadicha:

- **Selected for "Young Researcher in Computer Science and Engineering on 31 July 2019" by Global Outreach Research & Education Association Bangalore.**
- **Website : http://www.gorea.org/awards/research/third-list-of-global-outreach-research-award-recipients-2019/**



Third List of Global Outreach Research Award Recipients 2019

			Organization	State	Country	Code Number
			Sahyadri College of Engineering Bengaluru	Karnataka	India	GOREA/2019/R062
				Karnataka	India	GOREA/2019/R029
Synthesis and Biological Evaluation of Novel Benzimidazole Derivatives For Analgesic Activity		Research Project of the Year	Sri Padmavati Mahila University, Tirupati	Andhra Pradesh	India	GOREA/2019/R065
				Bihar	India	GOREA/2019/R066
				Telangana	India	GOREA/2019/R068
			P.R. Pote College of Engineering & Management, Amravati	Maharashtra	India	GOREA/2019/R069

Shri Shivaji Ed[illegible]ti [illegible]Society, Amravati's

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA (MS)

NAAC Reaccredited with A Grade (CGPA 3.24) College with Potential for Excellence [Status by UGC]
Lead College[Status by SGB, Amravati University, Amravati] DST - FIST Support

National Conference on

Recent Advances in Physical and Mathematical Sciences

NCRAPMS - 2020

Certificate

This is certify that ~~Dr. /Mr. /~~Ms. Jyotsna S. Wath (Won 1st prize in P.A) of P.R. pote (patil) college of Engineering, Amravati has participated / ~~poster~~ / presented a research paper entitled cosmological model in self-creation theory of gravitation in the National Conference on **"Recent Advances in Physical and Mathematical Sciences"** organized by Shri Shivaji College of Arts, Commerce and Science, Akola on January 18th, 2020.

DR. R. V. SALODKAR
Organizing Secretary
NCRAPMS - 2020

DR. R. M. BHISE
Principal & Chief Organizer
NCRAPMS - 2020

DR. S. T. KHADAKKAR
Convener
NCRAPMS - 2020

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

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Session 2019-20

3.2.3 – No. of Incubation center created, start-ups incubated on campus during the year

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	35

3.2.3 – No. of Incubation center created, start-ups incubated on campus during the year

Incubation Centre	Name	Sponsored
Nil	Nil	Nil

Name of the Start-up	Nature of Start-up	Date of commencement
Nil	Nil	Nil

for

H.O.D. (Mech. 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

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Session 2019-20

3.3 Research Publications and Awards

3.3.1 - Incentive to the teachers who receive recognition/awards

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	36
2	First Year	37

3.3 Research Publications and Awards

3.3.1 - Incentive to the teachers who receive recognition/awards

Department	State	National	International
EXTC	Nil	Nil	Nil
ELECTRICAL	NIL	NIL	NIL
Mechanical	Nil	Nil	Nil
Computer	Nil	Nil	Nil
Civil	Nil	Nil	Nil
First Year	--	1	Nil
MBA	1	NIL	NIL
MCA	Nil	nil	Nil
Total	**1**	**1**	**Nil**

for

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

F.Y. 3.3.1

To, 01 37

The Head of department
fist year Engg. depastment.

Subject :→ Application for reimbursement of mathematical workshop.

Applicant→ Asst. Prof. sheetal Nerkar.

Respected sir,

I undersigned Asst. Prof. sheetal Nerkar working as lecturer in first year Engg. department. I have to attain the mathematical workshop organized by V.M.V. college Amravati on date 22/09/2019. For the same, I have to pay fees of 300/- Rs for every participant. So I request you to please provide the renumeration for the workshop.

Thanking You!

Yours faithfully
sheetal Nerkar

Date:- 21/09/19
Place:- Amravati

Permitted
H.O.D.
Deptt. of First Year Engineering
P.R. Pote (Patil) Edu. & Welfare Trust's
Group of Institutions, AMRAVATI

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

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Session 2019-20

3.3.2 - Ph. Ds awarded during the year (applicable for PG College, Research Center)

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	38
2	Computer Engg.	39-40
3	First Year	41-42
4	MBA	43-44

3.3.2 - Ph. Ds awarded during the year (applicable for PG College, Research Center)

Name of the Department	No. of Ph.Ds Awarded
EXTC	0
Electrical	0
Mechanical	0
Computer	2
Civil	0
First Year	1
MBA	1
MCA	0
Total	**4**

for

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

संत गाडगे बाबा अमरावती विद्यापीठ

विज्ञान व तंत्रज्ञान आचार्य

Doctor of Philosophy

(Faculty of Science and Technology)

This is to certify that

Shri Ajay Bashkaram Gadicha

having been found to be duly qualified on examination of the thesis on

A Novel Approach Towards Video Analysis And Search Using Semantic Intelligence And Scene Classifier

was admitted to the degree of Doctor of Philosophy in the subject Computer Science and Engineering in the faculty of Science and Technology in this University in the year 2019.

Amravati

Vice-Chancellor

Sr. No : 100395

40
82

Enrollment No. : 1607002673 S.No.: 16171

SINGHANIA UNIVERSITY

Pacheri Bari, (Jhunjhunu), Raj.- 333515
(Established Under Section 2(f) of UGC ACT, 1956)

PROVISIONAL DEGREE

The Academic Council of the Singhania University upon the recommendation of the Research Board hereby confers on **ARVIND SHIVAPPA KAPSE** son/daughter of **SHIVAPPA** the Provisional Degree of **Doctor of Philosophy** in **COMPUTER SCIENCE AND ENGINEERING** after completion of the prescribed requirements for the said degree in the viva - voce held on **2019-12-01**. The Provisional Degree has been awarded in compliance of UGC (Minimum Standards and Procedure for awards of M.Phil/Ph.D Degree) Regulation, 2009.

The subject on which he/she presented the thesis for the degree was:

"AN ANALYSIS AND IMPLEMENTATION OF SECURITY ALGORITHM TO INVESTIGATE CRIMINALS THROUGH DEVICE FORENSICS".

Pacheri Bari

Date: 2020-01-22

Registrar

SINGHANIA UNIVERSITY

(Established U/S 2(f) of UGC Act 1956)
Pacheri Bari, (Raj.) 333515
Ph.: 01593-271299/300, Fax: 01593-271003
website: www.singhaniauniversity.co.in

NOTIFICATION

Ref. No. SU /Admin/2019/ 2002 Dated: 17-12-2019

It is notified that after considering the reports of examiners on concerned theses submitted by the following candidates, by the Research Board, they are declared eligible for the award of Degree of 'DOCTOR OF PHILOSOPHY' by Singhania University on the basis of the Viva–Voce Examination held on dated 01-12-2019.

S. No.	Scholar's Name/ Enrollment No.	Title of Thesis	Name of Supervisor	Subject / Faculty
1	Arvind Shivappa Kapse (1607002673)	AN ANALYSIS AND IMPLEMENTATION OF SECURITY ALGORITHM TO INVESTIGATE CRIMINALS THROUGH DEVICE FORENSICS	Dr. V. M. Thakare	Computer Science & Engineering
2	Puneet Sapra (1501091828)	A STUDY OF VIDEOGRAPHY APPROACH TO ANALYZE THE PATIENT HEART RATE CLASSIFICATION	Dr. Anoop Sharma	Computer Science & Engineering
3	Pooja Anand (1601109252)	INDEXING TECHNIQUES FOR BIG DATA IMPROVING SECURITY AND DATA QUALITY FOR VARIOUS ORGANIZATIONS	Dr. Sandeep Maan	Computer Application
4	Renu Sindhu (1506098814)	A STUDY OF VARIOUS SECURITY TECHNIQUES FOR SAAS CLOUD COMPUTING	Dr. Aman Jain	Computer Application
5	Rajendra Man Banepali (1406075729)	DIGITAL DIPLOMACY: THE INTERNET OF INTERNATIONAL RELATIONS BETWEEN COUNTRIES – NEPAL AND OTHERS	Dr. Subarna Shakya	Computer Science & Engineering
6	Lalita Devi (1604000887)	PRIVACY AND SECURITY ISSUES AFFECTING ORGANIZATIONAL AND GOVT. AGENCIES INTENTION TO ADOPT BIG DATA IN INDIA	Dr. Anoop Sharma	Computer Science & Engineering
7	Reena Saini (1601107992)	INVESTIGATION OF DESIGNING ENERGY CONSERVING WIRELESS SENSOR NETWORKS USING BIO INSPIRED COMPUTING	Dr. Anoop Sharma	Computer Application
8	Sujata Yadav (1601109321)	CYBER LAWS AND CYBER CRIMES IN CONTEMPORARY INDIAN SOCIETY	Dr. Gaurav Aggarwal	Computer Application

SINGHANIA UNIVERSITY Pacheri Bari (Jhunjhunu) 2007

संत गाडगे बाबा अमरावती विद्यापीठ

विज्ञान व तंत्रज्ञान आचार्य

Doctor of Philosophy

(Faculty of Science and Technology)

This is to certify that

Shri Hemant Ramdas Dhanbhar

having been found to be duly qualified on examination of the thesis on

Removal Of Impurities Of Waste Water Using Clay And Ceramic Filters

was admitted to the degree of

Doctor of Philosophy in the subject Chemistry

in the faculty of Science and Technology in this University in the year 2019.

Vice-Chancellor

Amravati
20.12.2019

Sr No

SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE

Official Publication of Amravati University

PART-THREE

Thursday 18th July ,2019

NOTIFICATION

No. 115 /2019 Dated : 18.07.2019

SUBJECT : AWARD OF Ph.D. DEGREE

It is notified for general information that the Hon'ble Vice-Chancellor has accepted the reports o Examiners for evaluation of the thesis submitted by the following candidates for the award of Ph.D. degree as pe Direction No.07/2019 Dated 01.02.2019 and declared the following candidates eligible for the award of degr Doctor of Philosophy (Ph.D.) in the subject and faculty mentioned in the following table.

TABLE

SR. NO.	NAME & ADDRESS OF THE CANDIDATE AND DATE OF REGISTRATION/ RE-REGISTRATION	SUBJECT AND FACULTY	TITLE OF THE THESIS	NAME OF SUPERVISOR
01	02	03	04	05
1	Shri Mahek Iram Qureshi, C/o M.A. Qureshi, 'Nusrat', Sagar Nagar, Jail Road, Camp, Amravati. (15.07.2014)	Commerce/ Commerce and Management	A QUALITATIVE EXPLORATION OF SUBCULTURE AND LIFESTYLE VARIABLES INFLUENCING IMPULSE BUYING AND ITS POST PURCHASE COGNITIVE DISSONANCE	Dr. D.Y. Chacharkar, Deptt. of Business Administration & Management Sant Gadge Baba Amravati University.
2	Mrs. Geeta Mahendra Kadu, 89, Mahalakshmi Housing Society, Narendra Nagar, Extention, Nagpur-15 (15.01.2013)	Electronics / Science and Technology	STUDIES ON OPTIMAL DECISION SUPPORT SYSTEM FOR LIVER DISEASES USING ARTIFICIAL NEURAL NETWORK AND STATISTICAL TECHNIQUES	Dr. (Mrs.) R.D.Raut, Deptt. of Applied Electronics, Sant Gadge Baba Amravati University.
3	Shri Prakash Ramesh Awade, 1701, Tulip, Vardhaman Garden, Balkum, Thane (W), 400607 (15.01.2012)	Commerce/ Commerce and Management	AN EMPIRICAL STUDY OF CRITICAL SUCCESS FACTORS IN AN INDUSTRIAL SALES WITH SPECIAL REFERENCE TO LUBRICANTS INDUSTRY.	Dr. Rajeev Sadan, Principal, Nehru Mahavidyalaya, Nerparsopant, Dist Yavatmal
4	Shri Ganesh Gujrao Wagh, At Khullod Tq. Sillod, Dist Aurangabad-431112 (15.01.2013)	History/ Humanities	मराठवाड्यातील शेतकरी उठावांचे विश्लेषणात्मक अध्ययन (१९४८ ते २०१०)	Dr. Nitin V. Changole, Deptt. of History, Shri Shivaji Arts & Commerce Mahavidyalaya, Amravati.
5	Shri Sandip Vitthalrao Bhurale Mungsaji Maharaj Mahavidyalaya, Darwha, Dist Yavatmal (15.01.2013)	History/ Humanities	विदर्भाच्या विकासात श्री. शिवाजी शिक्षण संस्थेचे योगदान- ऐतिहासिक अध्ययन (१९३० ते २०१३)	Dr. Nitin V. Changole, Deptt. of History, Shri Shivaji Arts & Commerce Mahavidyalaya, Amravati.

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

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Session 2019-20

3.3 Research Publications and Awards

3.3.3 - Research Publications in the Journals notified on UGC website during the year.

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	45
2	Science & Humanities	46-50
3	CSE	51-54
4	Mech. Engg	55-57
5	Elect. Engg.	58-77
6	EXTC	78-87
7	MBA	88-91

3.3.3 - Research Publications in the Journals notified on UGC website during the year

Sr. No.	Departments	No. of Publications		Average Impact Factor, if any
		National	International	
01.	Science & Humanities	00	05	0
02.	CSE	01	03	0
03.	Mech. Engg	00	02	0
04.	Elect. Engg.	02	18	0
05.	Civil Engg.	00	00	0
06.	EXTC	00	16	0
07	M.C.A	00	00	0
08.	MBA	00	04	6.1, & 6.3
	Total	**03**	**47**	

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

International Journal of Advanced Science and Technology
Vol. 28, No.20, (2019), pp. 1238-1241

To Study AC electrical conductivity of TiO2 doped polyaniline.

[1*] N R Thakare ,[2]Swapnil Sawant ,[3]R. N. Bhagat,[4]S D wakde
[1,2,3,4]*Dept of Physics,*
[1,4]*P. R. Pote (Patil) C.E.M.,* [2]*M.F.Arts Commerce and S.C Science College Jarud Amravati, India*
[3]*R.Shahu Science College, Chadur Railway, India.*

Abstract
In the present research work we make a pallet of PANI+TiO2 and then we determined the AC electrical conductivity of polyaniline and polyaniline doped TiO2. Effect of Temperature on A.C. conductivity at varying frequency is also studied.

1. Introduction.

The synthesis of conducting polymer has been accomplished by oxidizing or reducing process either through chemical doping or electrochemical doping [1,2] various application of conducting polymer have been proposed as transducer of biosensor gas sensor transistor[3,4] Polyaniline (PANI) continues to attract considerable attention because its electrical and optical properties can be changed by oxidation and protonation of the amine nitrogen atoms. The protonation and deprotonation and various other physico-chemical properties of polyaniline is due to the presence of the –NH- group. [5 6] There are several reports of polyaniline found in the literature over the decades about the structure and constitutional aspect of aniline polymerization[7-10]. The primary and secondary structure describes the connectivity of the atoms and the three dimensional shape due to short range non- bonded interactions, such as backbone twisting respectively our aim is to determine the AC electrical conductivity of PANI doped TiO2.

2. Materials Used and Preparation of samples

2.1: Polyaniline (PANI):-

Chemical formula :($C_6H_7N)_n$

Polyaniline (PANI) is a conducting polymer of the semi-flexible rod polymer family. Although the compound itself was discovered over 150 years ago, only since the early 1980s polyaniline captured the intense attention of the scientific community. This interest is due to the rediscovery of high electrical conductivity. Amongst the family of conducting polymers and organic semiconductors, polyaniline has many attractive processing properties. Because of its rich chemistry, polyaniline is one of the most studied conducting polymers of the past 50 years.

2.2: Preparation of samples.

"Standard"preparationofpolyaniline

Project participants followed the same instructions to oxidize 0.2 M aniline hydrochloride with 0.25M ammonium peroxydisulfate in aqueous medium. Aniline hydrochloride (purum; 2.59g, 20mmol) was dissolved in distilled water in a volumetric flask to 50 mL of solution. Ammonium peroxydisulfate (purum; 5.71 g, 25 mmol) was dissolved in water also to 50 mL of solution. Both solutions were kept for 1 h at room temperature (~18–24 °C), then mixed in a beaker, briefly stirred, and left at rest to polymerize. Next day, the PANI precipitate was collected on a filter, washed with three 100-mL portions of 0.2 M HCl, and similarly with acetone. Polyaniline (emeraldine) hydrochloride powder was dried in air and then in vacuo at 60 °C. Polyanilines prepared under these reaction and processing conditions are further referred to as "standard" samples. Additional polymerizations were carried out in an ice bath at 0–

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2

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Synthesis of Nano-Cadmium Sulfide Using Urea as a Capping Agent

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Abstract: *Cadmium sulfide has been synthesized using chemical solution method having average particle size 20 nm. CdS nanoparticles are prepared by using urea as a capping agent and variety of techniques like X-Ray Diffraction (XRD), Tanning Electron Microscopy (TEM), and Fourier Transform Infrared Spectroscopy (FTIR) are used to carry out structural characterization of the nanoparticles.*

Keywords: *Nano-CdS, Urea, X-ray diffraction, TEM, FTIR*

I.INTRODUCTION

In recent years, semiconductor nanocrystals have attracted much attention in both fundamental research and technical applications, owing to their unique size-dependent optical and electronic properties [1-3]. Large scale synthesis of such semiconductor nanoparticles such as solid powder is critically important not only for the study of their physical properties but also for industrial allocation in the area of catalysis, photo catalysis and microelectronics [4-5]. CdS is from one of the most important group II-VI semiconductors having band gap energy 2.43 eV and widely used in the application of optoelectronic devices, preparation of cadmium-coated baths, manufacture of paint pigments and to study its properties [4]. Many organic passivators such as 1-thioglycerol, thiophenol [6], thiourea [7] and mercapto acetate [8] and so on, are toxic, which will pollute the environment if large-scale nanoparticles are produced. The basic aim of the present research work is to synthesis CdS nanoparticles on large scale, which is environmentally non-toxic and controllable, using urea as one of the best capping agent and investigated its electronic properties [9].

II.EXPERIMENTAL

II.1 MATERIALS

All the reactants and solvents used in this work were of analytical grade and used without any further purification. Cadmium nitrate {Sd fine–Chem limited} and Sodium sulphide {Sd fine-chem limited} were used as received. NaOH was obtained from Supreme Petrochemicals Private Limited Mumbai, India and used without further treatment. Urea was purchased from (Sigma-Aldrich). Deionised water was used as a solvent.

II.2 CHARACTERIZATION

The powder X-ray diffraction (XRD) was made on a PHILLIPS HOLLAND PW 1710 X-ray diffractometer using CuKα radiation (λ=0.154056 nm). The morphology of nanoparticles was observed with a TEM, Hitachi H-7100 Transmission Electron Microscopy. The dried nanoparticles mixed with KBr were characterized with Fourier Transform Infrared Spectroscopy (FTIR) on SHIMADZU. UV-Vis absorption spectrum of the nanoparticles was recorded at room temperature with a SHIMADZU (visible spectrometer) UV-1700 series. All measurements were made under ambient conditions

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DC ELECTRICAL CONDUCTIVITY AND THERMAL ANALYSIS OF LOW DENSITY POLYETHYLENE FILLED WITH ZINC OXIDE NANOPARTICLES

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ABSTRACT

This paper describes the studies related to Zinc Oxide nanoparticles (0, 0.5, 1, 3 and 5 wt. %) filled Low Density Polyethylene thin films prepared by solution casting technique. The DC electrical conductivity of ZnO/LDPE nanocomposite thin films was studied as a function of temperature and filler concentration. The conductivity was found to be sensitive to the temperature and also increased with increase in temperature and concentration of ZnO NPs. The activation energy, Ea, was calculated from the graph of log σ vs 103/T plot within low and high temperature regions. The thermal transition of the nanocomposites was evaluated using DSC analysis

Keywords: ZnO NPs, LDPE, Polymer Nanocomposites, DC conductivity, DSC.

1. Introduction

Recently nanocomposite materials have become one of the most extensively studied material all over the world. The area of polymer nanocomposites has grown to represent one of the largest classes within the scope of materials science, becoming a key area in nanoscience and nanotechnology offering significant potential in the development of advanced materials in numerous and diverse application areas (Ajayan P M , 2006; Thostenson E T, 2001; Ray S S and Okamoto, 2003).

Organic/inorganic nanocomposites are generally organic polymer composites with inorganic nanoscale fillers. The integration of inorganic nanoparticles into a polymer matrix allows both properties from inorganic nanoparticles and polymer to be combined/ enhanced. (Li S et al, 2010). Generally, these nanocomposites are endowed with the special properties of the nanofillers, leading to materials with quite innovative characteristics.

Polymer Inorganic Nanocomposite of LDPE and ZnO NPs were prepared with the view that they can exhibits some novel properties. Thus in the present work, ZnO/ LDPE nanocomposites were prepared by adding the ZnO NPOs in different weight % (0, 0.5, 1,3 and 5) in LDPE. In this paper the effect of doping inorganic ZnO NPs on the electrical and thermal properties of LDPE is enclosed.

2. Experimental

Commercial grade granular LDPE provided by Indothene (24FS040) was used as it is and Xylene (AR Grade, E Merek) as a solvent. The hexagonal Wurtzite structured Zinc oxide nanoparticles (ZnO NPs) with average crystalline size about 80 nm, synthesized by a simple chemical solution method followed by combustion (Golchha M C et al, 2011), and used as filler.

Thin films of ZnO/LDPE nanocomposites were prepared by using solution - cast technique (Sangawar V S et al, 2006). LDPE was dissolved in Xylene using hot plate magnetic stirrer at 100°C for 2 hrs. Then ZnO NPs were added to the solution of

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Cosmological Model In Self-Creation Theory of Gravitation

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Abstract:
In this paper, we have investigated the Barber second self-creation cosmology with macroscopic body as a source of matter in Bianchi type-III space time. Exact cosmological model is obtained by using relation between metric coefficients i.e. and radiation universe. Also, we have discussed the features of the obtained solutions.
Keywords: Bianchi type –III metric, macroscopic body and self- creation Theory.

I Introduction

Bianchi type cosmological model are important in the sense that these are homogenous and anisotropic, from which the process of isotropization of the universe is studied through the passage of time. Moreover, from the theoretical point of view anisotropic universe have a greater generally than isotropic models. The simplicity of the field equations made Bianchi space time useful in constructing models of spatially homogenous and anisotropic cosmologies.

Barber has invented two continuous self-creation theories by modifying the Brans and Dicke theory and general relativity. These modified theories create the universe out of self-contained gravitational scalar and matter fields. Brans has pointed out that the Barber's first theory is not only in agreement with experiment but also inconsistent in general. Barber's second theory is a modification of general relativity to a variable G-theory. In this theory the scalar field does not directly gravitate but simply divides the matter tensor acting as a reciprocal gravitational constant.
The Barber field equation in second self-creation theory (Barber, 1982) can be expressed as

$$R_{ij} - \frac{1}{2} R g_{ij} = -8\pi\phi^{-1} T_{ij} \qquad (1)$$

and

$$\Box\phi = \phi^{;k}_{;k} = \frac{8\pi\lambda}{3} T \qquad (2)$$

where ϕ is the Barber's scalar, T_{ij} is the energy momentum tensor,
$\Box\phi$ is the invariant D'Alembertian, T is the trace of energy momentum tensor T_{ij}, λ is a coupling constant to be determined from experiment and $0 \prec |\lambda| \prec 1/10$.

In the limit $\lambda \to 0$, this theory approaches the Einstein's theory in every respect. Due to the nature of the space time Barber's scalar ϕ is a function of 't'.

Reddy (1987 a, b), Maharaj et al (1988), Shanti and Rao (1991), Mohanty et al (2000,2002), Adhav et al (2008) etc. are some of the authors who have investigated various aspects of Barber's self-creation theories. Singh and Suresh Kumar (2007) have studied Bianchi type-II space times with constant deceleration parameter in self creation cosmology. Also, Reddy DRK (2005), Adhav et al

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OZONE LAYER DEPLETION

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ABSTRACT

Widespread use of chlorofluorocarbons has led to about 3% ozone depletion by the end of the 20th century. This has resulted in sharp decline in subsonic jet operations, flow rate and concentration of trace species. Dutsch, Hesse and Whitten have reported dynamic solution to examine perturbation effect of chlorofluorocarbons. A one dimensional time dependent model was used and results were obtained by considering the constant rate of chlorofluorocarbon production and source at the sea. Model is applied to the detailed model and presented results for a wide variety of species with time and altitude. Taking cognizance of the fact, the ozone layer stability and the projected ultimate equilibrium condition has been studied in this paper.

keywords : ozone layer, irreversible thermodynamics

Introduction

The steady state solution of the system outlined the fact that the ozone layer can reach a steady state for any pollutant concentration values. The natural limit of the ozone concentration, as well as the upper limits for the pollutant concentration was calculated. The procedure suggested a way of assessing the effect of anthropogenic activities on ozone layer. The transmission coefficients of the UV radiation were calculated establishing the lower limits of the "permitted" pollution. Ozone layer stability was studied in the framework of irreversible thermodynamics. The following 36 chemical reactions describing the ozone creation and destruction processes in the stratosphere were considered

$O_2 + h\nu \rightarrow 2O$
$O + O_2 + M \rightarrow O_3 + M$
$O_3 + h\nu \rightarrow O_2 + O^*$
$O_3 + O^* \rightarrow O_2$
$HO + O_3 \rightarrow HO_2 + O_2$
$HO_2 + O \rightarrow OH + O_2$
$NO_2 + h\nu \rightarrow NO + O$
$NO + O_3 \rightarrow NO_2 + O_2$
$NO_2 + O \rightarrow NO + O_2$
$Cl + O_3 \rightarrow ClO + O_2$
$ClO + O \rightarrow Cl + O_2$
$ClO + NO \rightarrow NO_2 + Cl$
$HO_2 + Cl \rightarrow HCl + O_2$
$HCl + OH \rightarrow H_2O + Cl$
$CF_2Cl_2 + h\nu \rightarrow CF_2Cl + Cl$
$CFCl_3 + h\nu \rightarrow CFCl_2 + Cl$

In the above, M stands for a catalyst.

Species continuity equation was applied to the relevant species taking in to account vertical motion through eddy diffusion term. This gave set of 11 partial and coupled differential equations dependent on time and altitude. For various species, the basic species continuity equation is given as

$$\frac{dX_i}{dt} = J_i C_i \sum_{n=1}^{I} k_n \pi C_{j,m}$$

Where n any single reaction
ν stoichiometric coefficient
m number of species in nth reaction
I number of reaction

The eleven species considered were $O, O_3, HO, Cl, ClO, NO, NO_2, HO_2$, F-11, F-12, HCl. The model of ozone layer lead to a system of non- linear differential equations. To solve these equations, numerical discretization method was employed using semi-implicit finite difference schemes. The simultaneous equations thus obtained were solved using matrix inversion technique for a tridiagonal matrix wherein the MxM matrix is transformed to Mx1 matrix reducing the computer storage requirements and time. Steady state solution of the system indicated that ozone layer stability is independent of pollutant concentration viz. Freon-11 and Freon 12 and is instead strongly dependent on the relation between HO_2 and NO_2 concentration in the stratosphere.

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Prediction of Rivaled-Unrivaled Scene in Video Using SCA Algorithm

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Abstract: - *Video scene classification and segmentation are fundamental steps for multimedia retrieval, indexing and browsing. In this paper, a robust scene classification and segmentation approach based on Support Vector Machine (SVM) is presented, which extracts both frame and scene features and analyzes their inter-relations to identify and classify video scenes. This system works on content from a diverse range of genres by allowing sets of features to be combined and compared automatically with comparative use of thresholds. With the temporal behaviors of different scene classes, SVM classifier can effectively classify pre-segmented video clips into one of the predefined scene classes. After identifying scene classes, the scene change boundary can be easily detected. Researchers have actively developed wonderful strategies to wise video processing management, collectively with shot transition detection, key frame extraction, video retrieval, and lots of others methods related to video processing. This paper merely focuses on Rivaled-Unrivaled Scene in Video Using SCA Algorithm which can takes input from the dataset and produce output is the trained algorithm which can accurately classify the input scenes also it generate the scene consequence more accurately with respective to other peer technique.*

Index:- SCA,SVM,SBD

I. INTRODUCTION:-

The rapid growth of multimedia technology has caused an exponential increase of multimedia digital data in recent years. There are an increasing number of audio visual materials available publicly (e.g., broadcast news, dramas, movies, sports video). Opportunities in viewing privately produced videos in public are not uncommon (e.g., YouTube). Explosion in the amount of multimedia data is causing a serious management problem, which needs to be addressed. In video processing, identification of high level semantic concepts has been a hot issue in recent years, further leading to studies such as video classification, summarization and retrieval [7, 13, 14]. Combination of text, audio and image analysis techniques, so-called multimodal processing, has also been investigated widely

Video analysis is a exceedingly research area and currently there is an enormous interest in analysis at various levels of complexity, ranging from optical flow and dynamic texture analysis to high level analysis in terms of actions, activities and localization of particular events in videos. While the target application in this paper is dynamic scene recognition, at the same time this paper contributes a principled, well-founded suite of representations and algorithms with potential to benefit space time analysis at all levels of abstraction.

Classifying scenes (such as mountains, forests, and offices) is not an easy task owing to their variability, ambiguity, and the wide range of illumination and scale conditions that may apply. Two basic strategies can be found in the literature. The first uses low-level features such as colour, texture, power spectrum, etc. These approaches consider the scene as an individual object [16, 17] and are normally used to classify only a small number of scene categories (indoor versus outdoor, city versus landscape etc...). The second strategy uses an intermediate representations before classifying scenes [3, 11, 19], and has been applied to cases where there are a larger number of scene categories. In this paper we introduce a new scene classification algorithm based on a combination of unsupervised Neuro-optimization technique which is constructive for turn out accurate scene result from video

A. SHOT BOUNDARY DETECTION:

Algorithm 1: Shot Frontiers Detection

1: Let **M (f_i)** be the fith frame in video sequence, where
F $_i$ = 1, 2, ….. , ***Fg*** *(Fg* refer to the whole variety of Video sequence)

2: Segregation of respective frame into blocks with x rows and y columns, and L **(m, n, fi)** stands for the block at (m, n) in the fi frame.

3: Evaluate the X^2 histogram matching oddity between the analogous blocks between successive frames in video sequence. **G (m, n, fi) and G (m, n, fi +1)** stand for the histogram of blocks at (m, n) inside the fith and (fi +1)th body respectively. Block's calculation is computed with the following equation:

$$D'(fi, fi+1, m, n,) = \sum_1^{L-1} [G(i,j,fi) - G(i,j,fi+1)]2 \Big/ G(i,j,fi)$$

4: Computing x2 histogram difference between two consecutive frames:

$$D'(fi, fi+1) = \sum_1^x \sum_1^y \text{Wmn } D'(\text{fi}, \text{fi}+1, \text{m}, \text{n})$$

where wij refers to the influence of block at (m, n) ;

5: Computing threshold automatically: computing the mean and standard variance of x2 histogram differentiation over the whole video sequence[7]. The following formulaes are used for Calculating the MD anSTD as follows:

$$MD = \sum_{fi=1}^{fv-1} \frac{D\,(fi, fi+1)}{fv-1}$$

$$STD = \sqrt{\sum_{fi=1}^{fv-1} \frac{(D\,(fi, fi+1) - MD)^2}{fv-1}}$$

6: Shot boundary detection
Let the threshold Td=Mean Deviation +b* STD
if D' (i,i +1) ≥ T , the fi th frame is the end frame of previous shot, and the f(i +1)th frame is the final frame of subsequently shot.

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Implicit Authentication Approach by Generating Strong Password through Visual Key Cryptography

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Abstract: In this era of digitization where literally everything is available at the tip of the finger. Huge amount of data used to flow day in day out, where users used to work with various applications like internet websites, cloud applications, various data servers, web servers, etc. This paper provide idea about access control or authentication used to be acting as first line of defense for preserving data secrecy and its integrity, so far it is learned that the usual login password based methods are easy to implement and to use as well but it is also observed that they are more subjected to be get attacked therefore to preserve authentication on the basis of simple alphanumeric passwords is a challenging task now a days. Hence new methods which bring more strength for authentication and access control are so very expected and desirable.

Keywords: *Strong password, Image pool, access control, authentication, Image Fusion, Visual Key Cryptography*

1. Introduction

Before visiting various innovative schemes of generating strong password, let's observe the crucial parameters which will determine and demonstrate the effectiveness of a password. There are various factors available which determines the strength of password. The first one is how long the password is in length? If it is too short then it may be easily guessed. Second parameter is doing the password generated in a sequence or they are created randomly. if the password generation is in sequence then once the attacker gets acquainted with the pattern of password generation then it becomes extremely simple for him to crack the password and if it is randomly generated then user must remember it and recollect it as an when required.

The third factor may be considered as how passwords are stored and used. Let us consider that a strong set of passwords are generated but if those are not stored at proper place with certain degree of security then all those passwords may be hacked or leaked, which will cause threat to information security. sometimes the utilization of the password is also becoming case of worry, because if the passwords is too strong that means it may have big length and combination of various alphanumeric characters then it becomes difficult for users to recall and recollect it for using in some application. Therefore, all the above parameters must be kept in mind while designing strong password. Work has to be done by considering above parameters so that we will present a strong password generation model which will provide enough strength and must be recollect and recall wherever and whenever required. This requires a comprehensive study of various security issues which are related to access control and authentication. While creating passwords usually users used to make various mistakes which will ultimately resemble in generation of weak password.

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Research Article

A Generic Approach towards PyTorch and Its Data Structure Tensor through Deep Learning

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A B S T R A C T

PyTorch is a library for python programs that simplifies building deep learning projects. It emphasizes flexibility and allows deep learning model to express in idiomatic python. This adoptability and ease of use found early adopters in the research society, and in the years since the library released it has grown into one of the most prominent deep learning tools for broad range of application. This paper expresses the knowledge about the core data structure use by pytorch i.e. Tensor.It is a multidimensional array that has many resemblances with Numpy array. Tensor accelerates mathematical operations and Pytorch has packages for distributed training and extensive library of deep learning function.

Keywords: Deep Learning, Pytorch, Tensor

Introduction

PyTorch is an exposed source machine learning reference library for Python and is entirely based on Torch. It is principallyutilized in applications likenormal language processing. PyTorch is established by Facebook's artificial-intelligence exploration group with Uber's "Pyro" software for the impression of in-built probabilistic programming.

Initially, PyTorch was established by Hugh Perkins as a Python wrapper for the LusJIT grounded on Torch framework. There are twofold PyTorch variations. PyTorch reforms and apply Torch in Python though sharing the similar core C libraries for the backend code. PyTorch engineersmodified this back-end code to run Python proficiently. PyTorch is recognized for having three levels of abstraction as given below:

Tensor – Imperious n-dimensional array which runs on GPU.
Variable – Node in computational graph. This supplies data and gradient.

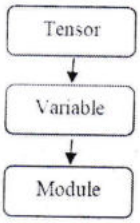


Figure 1.Pytorch Levels of Abstraction

Module – Neural network layer which will accumulate state or learnable weights.

Tensor

The originality that this article shows the performance valuation of PyTorch library, the usage of GPU and CPU use rate as assessment metrics and the usage of arithmetical tests for legalizing the attained data during the experimentation. As a result, the PyTorch library offered a greater performancewhen likened with TensorFlow library, over data analysis, it was confirmed that during execution using

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BIG DATA ANALYTICS PLATFORMS: A SURVEY

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To Examine the Effect of Inventory Dependent Demand and Time Dependent Holding Cost on Inventory

Pankaj S. Ardak, Atul B. Borade

Abstract: Inventory models are effectively used as control tool in most of the inventory control tools. The current study deals with the inventory production model for non momentary deteriorating items. To developed the mathematical model holding cost is considered as time and demand dependent. The items does not start to deteriorate as soon as it enters into the stock. During stock buildup time demand is assumed to be inventory dependent. Optimum solution has been find out by using differential calculus. Results indicate that total inventory has a major influence of inventory consumption parameter.

KEYWORDS: *EPQ, holding cost , Inventory and time dependent consumption rate.*

I. INTRODUCTION

Inventory systems has been studied by many of the researchers by considering different assumptions. Buying capacity of customer increases by the large stock present in the store. Deterioration is common in perishable items like food, milk, meat and flowers. To maintain the quality of such items need special storing arrangement which cause rise in holding cost. As such items deteriorates with time in such condition holding cost vary with time. Ardak *et. al.* (2017) developed EPQ model for perishable items which required special storing arrangements.[1,2&3] Items with defect has been analysed without considering inventory carrying cost of imperfect items to developed an EPQ model. [4]. In actual production process the quality of the product depends upon various factors. This can affect the quality of the product hence it is not possible that always good quality items will get produced[5]. In perishable items deterioration start with time. The inventory model with partial backloging has been studied for constant demand.[6]. Rosenblatt and Lee studied inventory model for imperfect production process.[7]. The items deteriorate at higher rate when process change its state., [8]. The total cost is effected by the demand and quality loss function [9]. The optimal production run time get affected by cost of rework, scrap and rate of defective items[10]. Demand was dependent on stock, cusomer and credit policy [11,12]. Gede considered stochastic machine unavailability and price- dependent demand to analysed production inventory model[13]. The influence of demand and cost on EPQ has been analysed by Jinn[14]. Set up cost and process quality had a important role in production inventory model [15].

With time perishable items deteriorates, hence in the present study holding cost is considered as time dependent. During stock buildup time demand is assumed to be inventory dependent. Several sections of the paper is divided as following . Mathematical model formulation is in third section.. The numerical and sensitivity analysis had been discussed in last.

The Present model has been developed by considering following Assumptions:-

1. Constant production rate wich is assumed to be greater than Demand.
2. During stock buildup time demand is inventory dependent

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A New Way of Getting Comfort by Using Peltier Comfort Conditioner

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Abstract: Air-conditioning is the process of controlling temperature, humidity, motion and purity of the atmospheric air in confined space. In the recent years have seen the increase in demand of air conditioning due to the global warming. Present air conditioning systems are work on VCR (vapour compression refrigeration) system & this system is expensive and have many other problems such as difficult to install, bulky system, required more space, Compressor is main component of VCR system which creates noise and vibrations. So, there is a need to find out the new system which can become an alternative to VCR system. After making the research survey on air conditioning technologies we got that Thermoelectric Cooling can become an alternative to VCR. So that in this work we have gone through the study of TEM, Validation of Thermoelectric Module & Fabrication of a prototype model for the experimental analysis of thermoelectric cooling (TEC) system to check its performance as compare to VCR system.
Keywords: VCR (vapour compression refrigeration), TEM (thermoelectric module), TEC (thermoelectric cooling)

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I. INTRODUCTION

Air conditioning is the process of removing heat and moisture from the interior of an occupied space, to improve the comfort of occupants. Air conditioning can be used in both domestic and commercial environments. This process is most commonly used to achieve a more comfortable interior environment, typically for humans and other animals, however, air conditioning is also used to cool/dehumidify rooms filled with heat-producing electronic devices, such as computer servers, power amplifiers, and even to display and store some delicate products, such as artwork.1902 Wills Havilland Carrier invented the first air conditioner to control the temperature and humidity of a printing company, marking the first-time effort taken to control the temperature of the surroundings. Present air conditioner installations mainly come in two types: window systems and split systems (these are further classified into mini-split and central systems). In everyday language, these are commonly referred to as window ACs and split ACs, respectively. Window air conditioner is the most commonly used air conditioner for single rooms. In this air conditioner all the components, namely the compressor, condenser, expansion valve or coil, evaporator and cooling coil are enclosed in a single box. This unit is fitted in a slot made in the wall of the room, or more commonly a window sill. The split air conditioner comprises of two parts: the outdoor unit and the indoor unit. The outdoor unit, fitted outside the room, houses components like the compressor, condenser and expansion valve. The indoor unit comprises the evaporator or cooling coil and the cooling fan. For this unit you don't have to make any slot in the wall of the room. Further, present day split units have aesthetic appeal and do not take up as much space as a window unit. A split air conditioner can be used to cool one or two rooms. Even though this system has some problems such as this system consist of many moving equipment's as like compressor and condenser. Due to the movement of the parts of these components they create vibrations and so that unnecessary noise is produce. That affects the human comfort. Also each moving components require periodic maintenance. The compressor and condenser are large in size so that they require more space to install also they make the system bulky. All the current AC system are refrigerant base and many refrigerant produce advertising effect on the environment such as ozone layer depletion. So to overcome these problems there is a need to find out the new system which can become an alternative to VCR system. After making the research survey on air conditioning technologies we got that Thermoelectric Cooling can become an alternative to VCR. So that in this work we have gone through the study of TEM, validation of Thermoelectric Module & fabrication of a prototype model for the experimental analysis of thermoelectric cooling (TEC) system to check its performance as compare to VCR system.

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Review of Optimum Design Approach of Switched Reluctance Motor Used for Electric Vehicle

Deepak A. Shahakar

Ph.D Scholar

Abstract— *Switched reluctance Moto (SRM) has become one of the best choices for electric vehicle drive because it exhibits prominent advantages over other kinds of electric drive system. Nowadays, switched reluctance machines (SRM) are gaining interest in the scientific community due to the advantages they offer. The SRM offers an overall efficiency similar to an induction motor of the same rating, since the friction and windage losses are comparable. Many researchers have been done on SRMs, their related systems and challenges. This paper reviews the SRM structures, their advantages and disadvantages. Various SRM topologies are studied and their merits and limits are given. Additionally, the most common control strategies for SRM drives are categorized, which is followed by a summary of the researches on challenges in torque and vibration reduction.*

Keywords— *Switched reluctance machine, direct and indirect control, torque ripple, vibration reduction*

I. Introduction

The climate changes over the last few decades and the shortage of natural resources lead to introduction of the concept of sustainable development which aims to meet the actual human needs while preserving the environment such that the needs of future generations can be met. In terms of preventing global warming and conserving natural resources, vehicles are playing a critical role [12]. To reduce the greenhouse gases produced by automotive vehicles, fuel efficiency must be improved while cleaning exhausts gases as well as ensuring safety. World are making appeals to the manufacturers and researchers to be aware of the need for development of electric vehicles. The challenge is high due to ever increasing demand for mobility and transport of people and goods, in urban and rural regions. The principal task is to replace the fossil energy dependency and its environmental impact, with primary energy sources that are renewable, secure, sufficient, and environmentally compatible [12].

The paradigm shift in the auto industry, towards more energy efficient, more reliable and smarter vehicles [13] led to the development of electrified vehicles. The more electric vehicles (MEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs) are entering in the class of electrified vehicles. As for the energy, it can be drawn from multiple sources, such as: chemical batteries, fuel cells (FCs) or ultra-capacitors.

The key component of the EV is the electric motor and, therefore, its choice is very important. Many types of electric motors have been analyzed during last decades and evaluated for EVs. Switched reluctance motors (SRM) have some advantages in comparison with other electric motors due to their simple structure, flexibility of control, high efficiency, lower cost and robustness to run under failure conditions. The machine rotor does not have any windings or permanent magnets, being suitable for very high speed drive applications [2], [3]. The switched reluctance motors drives (SRDs) need more advanced control technology than DC and AC motors drives. High torque ripple, high noise and vibrations are the most important drawbacks of the SRM [1].

In order to produce maximum torque and reduce the torque ripple, many investigations have been done to design the SRM effectively, which needs the determination of a set of geometrical parameters. The influences of these geometrical parameters were also the topic of many investigations.

This paper is organized as follows. Section II describes the principles of of a SRM, including the SRD systems and its advantages and limitations. Section III presents the conventional and advanced SRM structures. Section IV introduces the common control strategies. Challenges to overcome SRM limitations are presented in Section V. Conclusions are given in Section VI.

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Evaluating Available Transmission Capability using PTDF and Generator Participation Factor

Pritee.R.Rane, Nitin.D.Ghawghawe

Abstract: ***Congestion management in restructured power system is a major technical challenge for the power system engineers. For a congestion free power market , Available transfer capability(ATC) is to be enhanced. ATC is a measure of remaining MW transaction that can be carried out without violating the transmission limits. In deregulated market , change in load can be met by more than one generator of the system generator participation factor is a measure of amount of power contributed by the generator to satisfy the load.This paper proposes that in simultaneous power transaction generator participation factor can decide the ATC of the network and can also change the maximum amount of load sustained by the bus before causing congestion of the network For this coding is done in MATLB and results are verified on Power world Simulator software.***

Index terms— Deregulation, congestion, power transfer distribution factor, Available transfer capability, Generator participation factor

I.INTRODUCTION

Electric power utilities, throughout the world, are currently undergoing major restructuring process and are adopting the deregulated market operation[1]. The restructured markets normally employ either pool trading that involves bidding in the open market or bilateral/multilateral trading directly between seller(s) and buyer(s) or a combination of the both Managing dispatch in an open access environment is a new challenge facing independent transmission system operators who are mandated to provide a level playing field for all transmission uses. Two issues are especially important viz, use of transmission system charges and congestion management[2-3].

objective of deregulation of power system is to provide electrical power to consumers, which will be qualitative, quantitative and economic. However this objective could be encountered by the network congestion. Effective design and controlling of power system network can avoid it. This requires determining the sensitivity of power flow for the changes in power at a bus [4] Enhancing the transfer capability of existing transmission system under steady state as well as improving system security under dynamic contingencies has become need of a new era[5]

IIAvailable transfer capability(ATC)

Definition- According to NERC Report [6] Available Transfer capability (ATC) is a measure of transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses

$$ATC = TTC - TRM - \{ETC + CBM\} \quad (1)$$

Where TTC- Total Transfer Capability
TRM-Transmission Reliability Margin
ETC-Existing Transmission Commitments
CBM-Capacity Benefit Margin

The versatile nature of load needs ATC to be updated continuously.ATC gives a measure how far the system is from the congestion [7].The main constraints for transaction of power are the thermal limit , the voltage limit and steady state limit.[8]The minimum out of these three i.e the thermal limit is considered for ATC calculation.Controlling,further planning and future planning of transmission infrastructure is dependent on ATC. Many researchers has come forward with various mathematical models to evaluate ATC of network.

II. POWER TRANSFER DISTRIBUTION FACTOR FOR ATC CALCULATION

Power transfer distribution factor (PTDF) method is used by many utilities for determination of ATC [9-10] .The change in load is met by various generators of the system.As the system is interconnected all transmission lines are sensitive to load change. The coefficient of the linear relationship between the amount of a transaction and the flow on a line is called the PTDF. When DC power flow is considered and ATC is calculated using PTDF method [11],it provides fast calculation but with less accuracy The change in line flow associated with a new transaction is then ,

$$\Delta P_{ij}^{New} = PTDF_{ij,mn} P_{mn}^{New} \quad (2)$$

Where i and j are buses at the ends of the line being monitored,
m and n are "from" and "to" zone numbers for the proposed new transaction,

P_{mn}^{New} is new transaction in MW amount.

$$P_{mn,ij}^{Max} \le \frac{P_{ij}^{Max} - P_{ij}^{0}}{PTDF_{ij,mn}} \quad (3)$$

$p_{mn,ij}^{Max}$ is the maximum allowable transaction amount from zone m to zone n.

ATC of the network is constrained by the minimum of the allowable transaction over all lines.

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title **Solar & Wind Intergated System**

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Optimal Power Flow for Hybrid HVDC-AC Transmission System: A Genetic Algorithm Approach

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Abstract

One of the most important requirements in power system operation, control and planning in energy management system (EMS) of modern power system control centers is optimal power flow (OPF). It is characterized as a difficult optimization problem and involves the optimization of an objective function, For example, minimization of total generation cost, and minimization of total loss in transmission networks, subject to a set of equality and inequality constraints such as generation and load balance, bus voltage limits, power flow equations, and active and reactive power limits.
In recent years, the incorporation of High Voltage Direct Current (HVDC) link in an

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Mitigation of Inrush Current in Three Phase Power Transformer by Prefluxing Technique

Pradeep J.Kotak, P. S. Verma, Atul D. Tekade, S. B. Warkad

Abstract: *Transformers are major component for electrical energy transfer in power system. Sta¬bility and security of the transformer protection are important to system operation. At the time of transformer energization, a high current will be drawn by the transformer. The mentioned current is called transient inrush current and it may rise to ten times the nominal full load current of transformer during operation. Energization transients can produce me-chanical stress to the transformer, cause protection system malfunction and it often affects the power system quality and may disrupt the operation of sensitive electrical loads such as computers and medical equipment connected to the system. Re¬duction and the way to control of energization transient currents have become im-portant concerns to the power industry for engineers. One of the methods to reduce inrush current is use of point on wave switching at the time transformer is initially connected to supply. It is called controlled switching or point-on-wave switching. In the point on wave switching, the energization of three phases is controlled ac-cording to the residual flux which remains in the transformer. Conven¬tionally, controlled switching or point on wave switching was the method being used to counter this problem, but this method required the knowledge of residual fluxes of transformer before energization which is quite tedious to get. So a technique has been pro-posed to mitigate inrush current in three phase transformer, by a process called pre-fluxing. After setting the in-itial fluxes of transformer it is energized by conventional controlled switching. A system of power transformer of specified rating is simulated in MATLAB simulink and results were obtained. This Paper describes the mod-eling of inrush current of 3- phase, 300 MVA, 11/400 KV, 50 Hz transformer, and mitigation of inrush current with both techniques using point on wave switching and prefluxing. The simulation is done in MATLAB..*

Keywords *: Filter, Harmonics, Inrush current, MATLAB, Point-on-wave switching, prefluxing*

I. INTRODUCTION

Transformer is a static device which transforms electrical energy from one circuit to another without any direct electrical connection and with the help of mutual induction between to windings. It transforms power from one circuit to another without changing its frequency but may be in different voltage level. A transformer is a static electrical device that transfers energy by inductive coupling between its winding circuits. A varying current in the primary winding creates a varying magnetic flux in the transformer's core and thus a varying magnetic flux in the secondary winding. This varying magnetic flux induces a varying electromotive force (emf) or voltage in the secondary winding. Transformer plays vital role in the reliable operation of power system. Reliability means continuity of supply. The demand for a reliable supply of energy has increased considerably requiring nearly a no-fault operation of power systems. A transformer is a rather large and expensive unit therefore, in a competitive and fairly low margin market, utilities tend to postpone as much as possible the replacement of aged units. This inconveniently reduces the network reliability.

A transformer breakdown could have consequences on the rest of the power system and in addition the repair time of transformers is long. The costs associated with repairing a damaged transformer is very high. The number of transient situations is believed to increase in a distributed power generation regime. A wind farm will be extensively exposed both to switching and lightning over-stresses. The understanding and prediction of these situations can result in better protection schemes and integration of power transformers in the network. Hazardous operations like inrush currents, overvoltage, internal resonances, and lightning impulse stresses manifest as electromagnetic transients and are usually difficult to accurately predict. Also, outages of transformers can interrupt the power supply for considerable durations. Inrush currents are instantaneous currents flowing in the transformer primary circuit when it is energized. They are normally of short duration, usually of the order of several seconds

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Induction Motor Faults Classification using Parks-Hilbert Transforms Approach and ANN Networks

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Abstract

Due to the cardinal features like robustness, efficient load handling, reliability etc the Induction Motor is foremost used for number of applications. While working environmental conditions, mechanical stresses etc cause fault like bearing fault, inter-turn short circuit fault, rotor bar crack. These faults should be eliminated and categorized as early as possible to avoid harm. There are list of techniques are accessible for the fault catalogue of I.M. The Artificial Neural Network is the best solution over other existing techniques. The motor line currents recorded under varied faults conditions were analyzed using ANN.

Keywords: *I.M., Park's-Hilbert Transform, FFT, Statistical Parameters, ANN (networks)*

1. Introduction

Nowadays, Induction Motor has their wide usage in industrial and commercial sectors. But the induction motor undergoes several drawbacks while working due to mechanical stresses and environmental conditions. Failure survey have reported that the percentage of failure by components of induction motor as, [3]

(1) Stator related-38%

(2) Rotor related-10%

(3) Bearing Related-40%

(4) Other-12%

These faults conditions should be detected classified and clarified as much as possible. The fault should be clear in its minor state for maintaining its reliability, minimizing losses and expenses, etc. The fault may cause unexpected and sudden breakdown of motors.

There are ample techniques and methods of classification of faults have been developed now. But ANN is accepted as one of the best working techniques. The obtained result gives the crystal clear idea about its suitability of proposed techniques to acquire 100% accuracy for multiple fault categorizations.

The foremost behoof of ANN is that it derives the online cognition libidinous the kind and size of culpability outside possessing very daedal mathematical models. If the element of Neural Network flops,it can wage without whichsover exigency by theirparallel disposition.

2. Park's-Hilbert Transformation

2.1 Park's Transform:

Acquisition of three phase currents(I_A, I_B, I_C) at different loading and faulty conditions. As a function of mains phase variables (I_A, I_B, I_C) the motor current park's vector components (I_D, I_Q) are,[1] [5] [6]

$$I_D = \left(\frac{\sqrt{2}}{\sqrt{3}}\right) I_A - \left(\frac{1}{\sqrt{6}}\right) I_B - \left(\frac{1}{\sqrt{6}}\right) I_C \text{-------- [1]}$$

$$I_Q = \left(\frac{1}{\sqrt{2}}\right) I_B - \left(\frac{1}{\sqrt{2}}\right) I_C \text{--}$$

----------[2]

The Park's transform is a simple and efficient diagnosis method. It is based on the spectral analysis of Park's Square Vector (PSV) that is computed as,

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Comparative Study of Different Methods For Improvement of Power System Stability

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Abstract:
Power system stability plays an important role in power system problems. There are various problems occurs in power system because of instability. The main focus of this paper is related with the stability studies of the power system . There are various parameters which hammers stability of power system like rotor instability , voltage instability , frequency instability etc. So it is necessary to improve stability of power system for reliable and secure operation. There are different techniques like classical and advanced to improve the stability of power system. In this paper we have focused on improvement of voltage stability using classical and advanced techniques. And hence by giving comparative analysis of these methods conclusion is drawn.
Keywords*: Power system Stability, PSO , LPP , Advanced PSO*

I. Introduction:

A. Electric Power System

We are in need of energy for our industrial, commercial and day to day activities and we use energy in different forms. Out of all the forms of energy, electrical energy is the most important one as it can be generated efficiently, transmitted easilyand utilized ultimately at reasonable cost. The ease of transmission of electric energy give rise to a possibility of generating electric energy in bulk at centralized place and transmit it over a long distance to be used ultimately by large number of users. [1] [2]

If it is necessary to generate in a small scale, just to light a house we can perhaps intuitively make the connections needed for a reasonably reliable and efficient operation. But it is necessary to generate in bulk then intuition cannot be used. .Itis important to followsystematic methodology to have reliable, efficient,economic and safe use of electric energy. The components used for generation, transmission and large scale distribution of electric energy form a
huge complex system termed as " Electric Power System". [1]

B.Power System Control

The role of power system control is to preserve system integrity and restore the normal operation subjected to a small or large disturbance. In other word , Power system control means maintaining the desire performance and stabilizing of the system following a disturbance, such as short circuit or loss of generation or load.[2] Energy is consumed in the electrical form but israther converted to other forms such as heat, light, and mechanical energy. The advantage of electrical form is that it can be transported and controlled easily and with high degree of efficiency and reliability. [2] Following are the fundamental requirement of properly designed and operated power. [2]

i. The system must be able to meet the continually changing load demand for active and reactive power.
ii. The system should supply energy at minimum cost and with minimum ecological impact.
iii. The quality of power supply must meet certain minimum standa4rds with regard to constancy of frequency, constancy of voltage and level of reliability

Hence 'Power system stability' is the ability of an electric power system, to remain in synchronism (come back to its normal operating conditions) under any type of disturbances like small , gradual and large disturbances. [2]

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Comparative Analysis of Simplex, Dual Simplex and Graphical Method of Optimization Technique Establishing Implementation of Optimization Tools In MATLAB.

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Abstract

Optimization technique plays an important role in real world problems. There are various Optimization technique consist of classical optimization method and advanced optimization methods which are very useful in number of application in each and every field to find the exact optimum solutions. The main focus of this work is based on the effect of optimization tools approach on simplex , dual simplex and graphical method of linear programming of optimization technique and comparison of tabular methods to find the best solution for same problem. Linear programming plays an important role in our lives. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration ..

By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution and also from the tabular calculations , we can find the best tabular optimization method to find the optimum solution.

Keywords: *simplex method , Dual simplex method , graphical method , optimization tools, optimal solution,*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical engineering, civil engineering, mechanical engineering etc as well as non engineering applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial , research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

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Spotting of Distribution Voltage Quality Annoyance in Distribution System

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Abstract

The most concerning issue for power engineers is power quality terms. Dynamic voltage restorer (DVR) is power quality enhancer and infuses voltage to distribution feeder in series to mitigate sag/swell. The study of detection and mitigation of voltage sag/swell is presented in this paper. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). This paper investigates the DVR controlled with SRF control methodology to compensate for sag/swell in different phase voltages is tested and Simulation analysis is carried out using MATLAB\SIMULINK .

Keywords: *Power quality, Voltage disturbances, Dynamic Voltage Restorer (DVR), Synchronous Reference Frame Theory (SRF).*

1. Introduction

Quality in power delivered to the load is termed as power quality. Unstressed load devices by upholding power factor, voltage and frequency gives good load performance. Upholding the power system parameters can eventually reduce system losses thus increasing the span of load devices. Issues regarding the power quality and their identification are addressed in this paper.

Voltage sag, voltage swell, differs in the shape of the curve alternative to sinusoidal influence the performance of power system. Sags and swells in voltage waveform are general in production units. This phenomenon yields loss to the production. Solution to this issue is to instrument the system to tolerate sags/swells using storage systems or intelligent management controls.

The study of detection and mitigation of sag/swell in voltage is presented. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). The realization of dynamic voltage restorer controlled by SRF methodology to lessen the voltage annoyance in different phase voltages is tested.

2. POWER SYSTEM NETWORK

The system of power network with sag/swell generation is shown in figure 1. Long duration and short duration disturbance in power network are very common in occurrence. If the disturbance duration is more than one minute it is termed as long duration and else short duration fault. Sag in voltage occurs with abrupt switching of heavy loads and swell occurs due to sudden switching of capacitor bank or abrupt load discharge.

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Integration of Wind Connection Low Frequency AC Transmission System using Back to Back Converters

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Abstract

The demand for worldwide electricity is projected to keep growing. As we know that resources are very limited, it is very important to save them for future generation in many aspects. One such limited element is land. We have 1/3 rd of earth is with the land and rest is covered with water. Since we have shortage of space everything cannot be done on the land itself. Now a day in developing countries power is the main demand and generation of power is done in very large scale which needs more land and equipment which leads to high capital investment. Keeping these points in view off shore wind power generation is proposed. By using off shore wind we can generate bulk amount of power generation. But it is facing high economical and technical challenges. The budget for offshore wind power has usually been higher than that of onshore wind generation, but costs have been decreasing quickly in recent years and in Europe has been price economical with conventional power sources since 2017.

The common off shore wind farms are grid connected via High Voltage AC (HVAC) transmission, the present researchers and industry experts are concentrating on cost effective transmission alternatives to present technologies. The future of transmission system focuses on finding the alternatives to transmit the maximum power at less cost. A novel Low Frequency AC (LFAC) Transmission System has proposed for transmission of bulk power over long distance (>100kms) by using an intermediate frequency with low investment cost.

This manuscript presents the one of the best approach of Low frequency AC transmission system technology interface the wind. The Low Frequency AC transmission system uses a 1/3rdof nominal frequency (20Hz/16.666Hz) than regular frequency (60Hz/50Hz) of main grids. The LFAC transmission was designed with Back-2-BackVSCs are selected as the most appropriate choice due to the technical benefits of Voltage Source Converters (VSC). An analysis to limit the optimum frequency for LFAC determines that between 100 km and 200 km the frequency lies in the range 20-16.67 Hz, showing the potential for LFAC.

The design, analysis and voltage control of the B2B converter based offshore wind connected LFAC system is modeled in Simscapein MATLAB.

Keywords: *We Voltage Source Converters (VSC), Line Commutated Converters (LCC),High Voltage Alternating Current (HVAC), High Voltage Direct Current (HVDC), Low Frequency AC Transmission System (LFAC) and Back to Back Converter (BtB).*

1. Introduction

Now a day it is very important to conserve environment as there are many consequences that have lead to the global warming. The demand of every individual in this raising population is rising every day. The demand is being increased from each individual to a country level. We need a large power to meet the demand of every country may be developing or developed. It is also very important to conserve fuel and decrease the emission of harmful gases. If we keep on using the resources in the same way there

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Impact Assessment of Generation and Transmission Investment on Spot Prices in Electricity Markets: A Study of MSETCL, India

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Abstract

Electric utilities worldwide have experienced a period of rapid changes especially in the market structure and regulatory policies. Under it, electric transport pricing can shape the level of competition in the electricity market. Spot pricing in this context is one of the effective schemes to achieve transmission pricing objectives.
The enactment of the Electricity Act 2003 has opened the door for wholesale electricity market in the Indian electricity sector. The success of Transmission Open Access (TOA) regulation in India needs to reconfirm the required infrastructure and appropriate pricing policy to promote competition in this sector. This paper aims at (1) the transmission pricing issues in general and Spot pricing in particular, (2) optimal Spot price formulation, (3) implementation of Spot pricing methodology over IEEE-30 Bus and real transmission network of Maharashtra State Electricity Transmission Company Limited (MSETCL) and (4) to assess the impact of generation and transmission investment on the Spot prices. Paper concludes that Spot pricing is easy to implement over real network situation and effective in achieving transmission pricing objectives.

Index Terms *– Open access, Electricity market, Optimal power flow, Spot pricing.*

I. INTRODUCTION

Electric utilities in several developed and developing countries have experienced a period of rapid changes especially in market structure and regulatory policies [11]. Under competitive electricity market, transmission has economies of scale, making this sector a natural monopoly that has to be regulated. Today the trend of electricity market is heading towards *Transmission Open Access (TOA)* whereby transmission providers will be required to offer the basic transmission service (i.e. operational and/or ancillary services) and transmission pricing [8]. To bring efficient use of the transmission grid and generation resources by providing correct economic signals, a Spot price theory for the restructured electric power system was developed [11].
The enactment of the Electricity Act (EA) 2003 has paved the way for undertaking comprehensive market reforms in the Indian electricity sector. The recently notified TOA, National Tariff Policy by Ministry of Power, Government of India seeks to achieve the objectives (1) to ensure optimal development of the transmission network, (2) to promote

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Effect of Optimization Tool Approach on Linear Programming Methods to Optimize Mathematical Manipulation

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Abstract: *The main target of this work is based on the effect of optimization tools on linear programming methods to optimize the mathematical calculations. Linear programming plays an important role in our lives. There are various methods to solve LPP, such as simplex, dual-simplex, Big-M, two phase and graphical method. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration. The objective function of linear programming problem (LPP) involves in the maximization and minimization problem with the set of linear equalities and inequalities constraints. By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution.*

Keywords: *Linear programming problem, optimization tools, optimal solution, Tabular Method.*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical engineering, civil engineering, mechanical engineering etc as well as non engineering. applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial, research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

II. Algorithms Used

A. Simplex method

Simplex method is the most accurate method to solve the Linear Programming problem. It can be modified according to the nature of problem. It can be easily implemented on computers. It overcomes the limitations of graphical method. It can be solved with lesser number of constraints and work with less than or greater than or equal to constraints. It uses a tabular form of representing the numbers.

Algorithm:

1. The problem should be of maximization type, if it is minimization then convert it into maximization by multiplying -1 to the objective function.

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MANTECH Publications

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Mobile Biometric Attendance System

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Abstract

Attendance system plays vital role in any institution, schools and colleges where the record of their regularity is noted. In This concepts we have replace the traditional attendance system into moving automated biometric attendance system where teachers don't have to call students name for their attendance. A moving robot will come to student's place where he has to just place their finger on fingerprint Scanner. This concept will save time while taking attendance in manual system. There will be transparency and also authentication will be fully based on the students biometric so no issue of fake attendance. This will increase overall classroom attendance as biometric of students cannot be mismatched.

Keywords: *Raspberry pi, automated attendance, line following robot, Database*

INTRODUCTION

Nowadays digitalization is growing a trend in every sector. Digital India concept is also in trending for development. So one step forward towards digitalization, we are trying to replace our manual attendance system by Mobile Biometric Attendance System. Attendance is a concept that exists in different places like institutions, organizations, hospitals etc. Traditional attendance paper based attendance systems are often lead to unnecessary time spent by teachers. Many times teachers pass the attendance sheet students to mark their attendance but this leads to issue of fake attendance where the students tend to answer or sign for their friends who are not present for that day.

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Available Transfer Capability Enhancement by Generator Participation Factor

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Abstract. Restructing has replaced the vertically integrated power system .Along with the benefits deregulation has brought some technical challenges like congestion. Available transfer capability (ATC) is a measure of how much MW power can be transmitted further over the already committed use, without violating the security constrains. Fast and accurate calculation of ATC is necessary for power transaction. Generator Participation Factor (GPF) is a measure of change in generator power as response to change in load demand .This paper focuses on calculation and enhancement of ATC using (GPF). Results are obtained on IEEE 6 bus system and validated on power world simulator.

Keywords: Restructuring, congestion , available transfer capability, power transfer distribution factor, generator participation factor.

1. Introduction:

In last few decades power system is getting restructured. It is replacing the monopoly of single entity with number of market participants [1-3].Given the choice; consumer can demand power from any generating company and thus creating competition. Privatization is only at generation side while transmission system still remains the same. While trading electricity one or more transmission line may be loaded to its maximum limit and thereby leading to network congestion. Congestion management is a major challenge in deregulated system [4].In order to avail all benefits as expected from restructured environment; sufficient trans-mission capability should be provided to satisfy the demand of increasing power transactions. Prior to any power transaction feasibility of capability of transmission network is to be determined first. Exact evaluation of transfer capability is very important for maximum use of transmission network.

It can be detected by evaluation of Available Transfer Capability (ATC) of the network. According to the North American Electric Reliability Council (NERC) ATC is the transfer capability remaining between two points above and beyond already committed uses [5]. The ATC value between two points is

$$ATC = TTC - TRM\{ETC + CBM\} \quad (1)$$

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Role of Electrical Power in Magnetic Maharashtra

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Abstract

The state hopes for investments of almost Rs 10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement, wishing to generate employment opportunities for nearly 35 lakh people in the state. In past couple of years, Maharashtra has achieved a new trajectory in bolstering the state's industrial output. This is evident in multiple reports released by reputed financial bodies that places the state ahead of the rest in Ease of Doing Business, as also statistics such as 50 per cent of infrastructural development of India being clocked in Maharashtra. To achieve the goal of Trillion Dollar economy, role of electrical power is vital or in another words we can say that electrical power is backbone of any industry.

Introduction

Magnetic Maharashtra Convergence Summit 2018 is Maharashtra's first Global Investors Summit and is being regarded as one of the biggest such events, especially on the lines of the 'Make In India' initiative launched by the Prime Minister in 2016 in Mumbai. Magnetic Maharashtra Convergence 2018 was a summit held in Mumbai, India on February 18–20, 2018. The event aimed to attract Investments of Rs.10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement to generate employment opportunities for nearly 35 lakh people in the state and it is being run with the tagline Made For Business.

To achieve this goal the role of Electrical Power in vital in terms to provide power to industries as well as to connect the nation in terms of Electrical Vehicles. The overall impact of the electric vehicle ultimately benefits the people. Compared to gasoline powered vehicles, electric vehicles are considered to be ninety-seven per cent cleaner, producing no tailpipe emissions that can place particulate matter into the air.[2]

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Energy Harvesting Trees

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Abstract

The energy harvesting trees are super eco-friendly synthetic trees will make use of renewable energy from the sun along with wind power, which are an effective clean and environmentally sound medium of gathering solar radiation and wind energy. The artificial trees are implanted with Nanoleaves, a composite of nano-photovoltaic nano-thermovoltaic and nano-piezo sources transforming light, heat and wind energy into eco-friendly electricity. The Nanoleaves transform the whole solar scale converting detectable light, infrared and Ultraviolet in a unification with piezo-electric generators that alter wind energy into electricity giving you efficient, cost efficient and attractive looking solutions, whilst providing the greatest electric power.

INTRODUCTION

Energy harvesting is defined as capturing minute amounts of energy from one ormore of the surrounding energy sources, accumulating them and storing them for later use. Energy harvesting is also called as power harvesting or energy scavenging. In the view point of energy conversion, human beings have already used energy harvesting technology in the form of windmill, watermill, geothermal and solar energy. The energy came from natural sources, called renewable energy, is emerged as future power source due to limited fossil fuel. Since the renewable energy harvesting plants generate kW or MW level power, it is called macro energy harvesting technology.Micro energy harvesting technology is based on mechanical vibration, mechanical stress and strain, thermal energy from furnace, heaters and friction sources, sun light or room light, human body, chemical or biological sources, which can generate mW or μW level power.

Energy harvesting as an alternative technique that has been applied to solved the problem of finite node lifetime and it refers to harnessing of energy from the environment or

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Night Vision Technology

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ABSTRACT-**In fourth industrial revolution, more people are turning to robotics because robots performs most significant role in every field and gives more precise output, which is consistent for different types of tasks. Objective of this study is to build a robotic arm to help the person facing the problem of writing disability; this robotic arm is coupled with a voice recognition system through which the person speaks in to the microphone and robot executes the writing operations automatically. This paper also depicts the essential plan of composing automated arm.**

KEYWORDS: Robotic arm, Arduino Uno, Python, speech recognition.

I. INTRODUCTION

A robotic arm is programmable mechanical device, which can perform simple tasks like pick and place, or more complex tasks diligently. Robotic arms are usually designed to simply the human efforts in the performance of a task. In this context, it will be interesting to devise a robotic arm which can assist a human who has a physical handicap for the purposes of writing. This can be achieved through the process of recognition of speech, which has been studied since 1950, and has progressed both in terms of algorithms and the equipment.

Proposed robotic arm is able to use by the physically handicap person for writing operation effectively. The robotic arm assembly consists of condenser microphone. The condenser microphone senses the spoken word from the person and transfers the weak signals. These signals are mandatory to be amplified. Following this signal conditioning, Analog to Digital Converter (ADC) converts the signals useful to the computer system. The central processing unit compares the input signals with predefined records of precise words and sound levels. As the signal levels of vocal word and stored word are matched, the control word passed to the mechanical assembly. The mechanical assembly consists of ARM2148 processor which controls the mechanism by means of actuating arrangement of three stepper motors. The three stepper motors are rotating along three mutually perpendicular axes. In general, human arm while writing moves in the three directions. In this developed robotic arm also, linear movement of the arm along three different directions is achieved by three stepper motors.

The next section presents the review of literature in two perspectives: (a) different algorithms for speech recognition, and (b) application modes of speech recognition.

II. LITERATURE SURVEY

(A) Speech recognition process through GUI can be categorized into the following categories [1-8]:

[1] **Hidden Markov Model (HMM):** HMM's are used extensively in speech recognition because of their consistency [5].

[2] **Artificial Neural Networks (ANN):** ANNs are similar to Markov Models, and use weights, connection strengths and functions. ANNs have been reported to have a high accuracy [3, 5]. The major challenge in ANNs is to find the weights.

[3] **Dynamic Time Wrapping (DTW):** DTW is an arrangement to compare between two different speaking speeds, and is often used to differentiate between the speaking signals of two different speakers. However, it has been reported that DTW have difficulty [6, 7].

[4] **Vector Quantization (VQ):** VQ is a technique which uses probability distribution functions for the quantization of signals. It has been reported that the VQ method is efficient [4, 8].

[5] **Mel's Frequency Cepstral Coefficient (MFCC):** MFCC is the most commonly used technique in automated voice recognition, since it is the easiest and simplest [6, 8].

(B) Comparative Analysis:

Speech recognition techniques have been adapted viz. using MATLAB, PIC, using GUI and using IoT. These applications are compared in Table 1. It is found that speech recognition IoT system is more accurate as compared to other three systems.

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Performance of Distance Relay inTransmission Line Protection

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Abstract—**The protection of multiterminal transmission lines is a challenging task due to possible infeed or outfeed currents contributed from the taped lines. As a result, the first zone reach of a non-communication-based scheme (e.g., impedance-based distance relays) usually cannot be extended more than a small portion beyond the tap point. This paper presents a various protection technique for multiterminal transmission line.**

Keywords— *Multiterminal transmission line, protection.*

I. INTRODUCTION

The North American power system consists of thousands of high voltage transmission lines (TL) transmitting electrical power between generators and load centers which represent the foundation of the power system. The majority of transmission line construction is of overhead type and therefore, is easily susceptible to various transient and permanent faults. These faults can lead to damage of the line itself and can cause power system instability. It is of the utmost importance that protective relay systems are capable of clearing all faults within the designed operating time, and have a high degree of dependability and security.

Typically, there are three types of line configurations used within the industry. These line configurations include radial configuration that are (a) one-terminal, (b) two-terminal, and (c) multi-terminal of which three-terminal is possibly the most prominent multi-terminal type. It should be noted that "terminals" in this context, refers to source terminals and not-tapped transformer terminals or stations. The two-terminal line configuration is the most dominant type followed by radial, and the three-terminal lines are the exceptions.

Three-terminal and other multiterminal line construction projects are generally a trade-off of planning economics and protection complexities, and can lead to compromises in reliability. Two-terminal lines with long tap(s) supplying remote load from the main line may display many of the same protection and loadability issues as three-terminal lines. These types of configurations and those with multiple tapped transformer stations (low voltage tie breaker closed) are beyond the scope of this discussion. However, it should be noted that some of the same types of complexities may be experienced with these types of configurations as three-terminal lines. The complexity of protecting these line configurations increases from the relatively simple radial, to the more difficult two-terminal, and to the still more difficult three-terminal. Relaying three-terminal lines has been and continues to be a challenge for protection engineers.

There are a number of factors that influence the decision to configure a transmission line with three terminals, such as economics, constrained lead time, regulatory approvals, right-of-way (RoW) availability, line overloads, and system performance requirements.

- There is an economic benefit in the construction of three terminals because it avoids the expense of all or a portion of a substation and typically reduces the transmission line miles.
- Use of three-terminal lines may be more expeditious in Add-ressing system needs.
- Right-of-way may be limited or not obtainable for new lines and stations.
- Regulatory approvals may be problematic. There may be opposition to the construction of new facilities and the construction of a three-terminal line may reduce the over-all project impact.
- Three-terminal line configuration may mitigate the possibility of transmission line overloads due to single contingency events. However, this is very dependent on system topology.

The differential relaying scheme using a communication link between the TL ends could provide a secure protection for multiterminal TLs [1]–[3]. However, the reliability of such a protection scheme depends upon the reliability of the communication link. Moreover, the measurement infrastructure of the tapping lines could be poor or there could be no communication channel for sending measurements from the far end of the tapping lines [4]. Therefore, a protection algorithm, which is based only on the local information obtained at the relay bus, is greatly useful for the protection of multiterminal TLs. Even when a quite reliable communication-based technique is employed for the protection of a TL, a second relay, which makes the decision only based on the local information, would be helpful to increase the reliability of the protection scheme.

The conventional TL protection schemes (e.g., distance relays) are based on the fundamental frequency components of the fault signals. It is well known that the fundamental frequency components of the local signals do not provide the sufficient information required for discriminating between the internal and external faults for a multiterminal TL. This is due to the fact that the infeed or outfeed currents contributed from the tap points could affect the fault-loop impedance estimated by a distance relay. As a result, the distance relay may under-reach or overreach depending on the transmission system configuration and parameters [5].

The fault-induced high-frequency (HF) transients contain extensive information about the fault by which the fault

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Spot Price Forecasting in a Restructured Electricity Market: An Artificial Neural Network Approach

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Abstract: ***In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability. Market participants use price forecasts to decide their bidding strategies to maximize their profits in the day-ahead market. Generating companies have to make decisions regarding unit commitment. Suppliers and consumers use price forecasts to optimize the proportion of forward market and bilateral contracts in their asset allocations. Facility owners use the long-term price trends to ensure recovery and profitability of their investments in generation, transmission, and distribution. This study demonstrates electricity spot price forecasting in day-ahead electricity market based on Artificial Neural Network (ANN) approach. Recently ANN techniques are emerged as the best technique and suitable for restructured power system problems. This study used Feed-Forward Neural Network (FFNN) and Radial Basis Neural Network to forecast electricity spot prices. The results are computed and compared for standard IEEE-57 Bus system. More accurate price forecasting is obtained using RB neural network based on several statistical errors.***

IndexTerms: Electricity Restructuring, Spot Price, Artificial Neural Network, Forecasting

I. INTRODUCTION

In several decades, worldwide countries have spent substantial resources and efforts on implementing market-oriented restructuring in their electric power sectors. The desired objective under such regime is to achieve a more efficient power system facilitated by competition. A good and sustainable pricing scheme becomes a key issue in order to achieve efficient competition. In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability [1-2]. Market participants need to forecast short-term, mainly day-ahead, prices to maximize their profits in spot markets. These price forecasting facilitates market participants in terms of negotiations of bilateral contracts, hedge against risks of price volatility in spot markets, to ensure return on investment in electricity generation, transmission and distribution.

Today the electric power industry has entered in an increasingly competitive environment under which it becomes more realistic to improve economic efficiency and reliability with affected market forces [3]. Electricity Spot pricing in such an environment has now been emerged as an important mode of energy pricing [4]. Electricity spot prices reveal vital information to the market participants about their bidding and risk assessment strategies and Independent system operators about to perform market dispatch and market decisions through market clearing price under network congestion.

One of the applications of electricity spot pricing in deregulated regime is to accurately predict the electricity prices. Market participants need information about short-term price forecasting i.e. day-ahead to maximize their profits in spot markets, medium term price forecasting to negotiate bilateral contracts so that they can hedge against risks of price volatility in spot market. Generators and transmission owner needs long-term price trends to ensure investments recovery in the facility planning [5]. Also, forecasted prices provide system operators to predict possible exercises of market power and detect gaming behaviors leading to unreasonable prices.

In past decades, several hard computational techniques like time series models, auto regressive and auto regressive integrated moving average (ARIMA) models have been used to forecast electricity prices. Though these techniques are found accurate, but are limited to a large amount of historical information and the computational cost [6]. Recently generalized autoregressive conditional hetero-skedastic (GARCH) model [7-8] and the Wavelet-ARIMA technique have also been proposed. Apart from this, some soft computational techniques based on Artificial Intelligence approach also been proposed to improve the performance of price

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Design and Analysis of Low Power Amplifiers for WLAN Application using 45nm CMOS Technology

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Abstract— **Power amplifier is a key building block in all RF transmitters. To lower the power consumption to improve high efficiency and allow full integration of a complete radio System-on-Chip, it is desirable to integrate the entire transceiver and the PA in a single CMOS chip. While digital circuits benefit from the technology scaling, it is becoming harder to meet the stringent requirements on linearity, output power, bandwidth, and efficiency at lower supply voltages in traditional architectures. In this paper for design of low power consumption, power amplifiers has triggered extensive studies and design with analysis the different types of power amplifiers and made the impact related to the power consumption, efficiency, voltage and current waveforms, area of chip layout and other related parameter and depending upon simulation result obtain which provide better enhancement and linearization for different parameter that power amplifier will be propose best for WLAN application. For the design and analysis of power amplifier there is consideration of two stage power amplifier, Push-Pull power amplifier and operational transresistance amplifier in nanometer CMOS technology. A two stage CMOS power amplifier is implemented in 45nm CMOS technology using ADS tool operating for WLAN application.**

Keywords— **Low power, Amplifier, CMOS technology, Design, WLAN.**

I. INTRODUCTION

The wireless market has experienced a remarkable development and growth since the introduction of the first modern mobile phone systems, with a steady increase in the number of subscribers, new application areas such as Bluetooth (IEEE802.11) and higher data rates. As mobile phones and integration of wireless connectivity have become consumer mass markets, the prime goal of the IC manufacturers is to provide low-cost solutions. CMOS has been for a long time the choice for digital integrated circuits due to its high level of integration, low-cost, and constant enhancements in performance. Power amplifier circuit and this ultimately translates to lower power consumption. Achieving a high gain and good impedance match over the entire frequency band makes the design a challenging task. Fig.1.1 shows Power Amplifiers (PA) are a key part of the RF front-end in any transmitter. It is a very power-starving block and usually the last stage of the transmitter end. Power amplifiers boost the signal power high enough such that it can propagate the essential distance over the wireless medium. Typically, this power is delivered to an antenna which acts like a load. The output power level from a PA is determined by the application it is designed for. It can range from a few milli-watts for home networks to hundreds of watts at base stations. In a narrowband application, the PA is designed for a Particular frequency range and all the parameters are measured at that frequency.

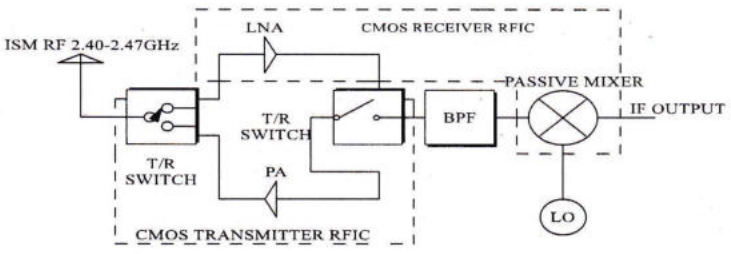


Fig 1: Block Diagram for RF Front End consisting of power amplifier.

Radio Frequency Integrated Circuits (RFIC) is integrated circuits operated in radio frequency range. RF Power Amplifiers are part of the transmitter front-end, and are used to amplify the input signal to be transmitted.

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EXTC 3.3.5

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has participated / presented a paper entitled Autonomus Floor Cleaning Robot. *at*

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Autonomous Floor Cleaning Robot

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***Abstract*— Automatic floor cleaning robot is a compact robotics system which provides floor cleaning service in large space like rooms, offices which reducing human labour. Fundamentally as a robot it eliminates human mistake and provides cleaning action with much more effectiveness. Robot operates in autonomous mode as well as in manual mode. If we clean the floor physically then there is a possibility that the operator will leave some portion of the floor. Manual work is time consuming and frustrating to clean the floor. Also in big offices floor area is extremely vast and the people involved there for cleaning purpose cannot clean it much more efficiently. Thus in the large space cleaning robot is more efficient.**

Keywords*— *Floor detection, light sensing, floor cleaning robot, Bluetooth

I. INTRODUCTION

In recent years, robotic cleaners have taken major attention in robotic research due to their effectiveness in assisting humans in floor cleaning applications at homes, hotels, restaurants, offices, hospitals, workshops etc. Basically, robotic cleaner are distinguished on their cleaning expertise like floor mapping, dry vacuum cleaning etc. Each cleaning and operating mechanism of robotic floor cleaners has its own advantages and disadvantages. In this work, "Autonomous Floor Cleaner "has been designed for offices, homes also in collages. In one of the mode this robot is fully automatic and manually controlled and making decisions on the basis of humans or various sensors which are used in this cleaning robot. These sensors are controlled by Arduino controller also controls the DC motors with the help of driving circuitry.

In manual mode, the robot can also be used to clean specific area of a room. The mechanical designs of robot are including vacuum cleaning mechanism, phenol tank, DC fan, etc. The main objective of this project is to provide a substantial solution to the problem of manufacturing robotic cleaner utilizing local resources while keeping it low costs. Manual work is taken over the robot technology and many of the related robot appliances are being used extensively also. Here represents the technology that proposed the working of robot for Floor cleaning. This floor cleaner robot can work in any of two modes i.e. Automatic and Manual. RF modules have been used for wireless communication between remote and robot. This robot is incorporated with IR sensor for obstacle detection.

These robots operate semi- or fully autonomously and manually to perform services useful to the well-being of humans and equipment. With the aim of keeping our robot as simple as possible, while able to perform the initial goals, i.e. an autonomous vacuum cleaner robot able to navigate through a room or a house with the minimum human assistance.

II. LITERATURE SURVEY

Robotic vacuum cleaner is an autonomous electronic device that is intelligently programmed to clean a specific area through a vacuum cleaning assembly. Some of the available products can brush around sharp edges and corners while others include a number of additional features such as wet mopping and UV sterilization rather than vacuuming. Some of the available products are discussed below. A. iRobot [2] In 2002, iRobot launched its first floor vacuum cleaner robot named Roomba. Initially, iRobot decided to manufacture limited number of units but Roomba immediately became a huge consumer sensation. Due to its increased market demand, a series of following robots have been launched in the market:

In this method the path of the robot is based on a random walk. Which means when the robot senses a hurdle through its ultrasonic sensor it is programmed to turn away from it and goes in another direction . This proved out to be the most optimum as it uses a less complicated algorithm. It is also easy to achieve since there is considerably less hardware when compared to the other two. It is also described that a local complete coverage path planning is one other form of describing a path planning based on the coverage rate and efficiency. In this path planning the robot plans its path in a comb shape in order to avoid overlapping of its path and which theoretically has the highest coverage rate.

Traditionally floor is cleaned with the help of dry mop or wet mop using the hand as a potential tool. They have to scrub hard on the surface. The cleaning includes cleaning of various surfaces basically cement floors, highly polished wooden or marble floors. Among these floors the rough surface floor such as cement floor, mostly present in semi urban areas are covered with so much dust.

From early human civilization human is increasingly dependent on the machines. Human is trying to reduce the workload upon himself, By the help of machines also we can get huge efficiency because there is no chance of human error there. Now -a -days from 30 years intelligence and robotics growing with a vast pace. Every human is using 2-3 robot at least per day. If we look at past 30 years we will see robotics from large structure going to small and smaller in Nano range. Very complicated sensors have been designed to help the robot in various works . Complicated pneumatic and actuating systems have been designed. One of the best examples is the mobile phone. If we look at the floor cleaning robot we can see iRobot is dominating the market

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Image segmentation and classification for vision based detection and tracking of moving object in video surveillance

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***Abstract*-Most moving object detection methods operate by trying a binary classifier to sub-windows of an image, after that a non-maximum suppression step comes where detections on overlapping sub-windows are eliminated. As the number of feasible sub-windows in even middling sized image datasets is very large, the classifier is usually learned on only a subset of the windows. This circumvent the computational complexity of dealing with the entire set of sub-windows , however, this paper address that, it leads to sub-optimal detector performance. Specifically , the main offering of this paper is the initiation of a new method, Max-Margin object detection (MMOD), for understanding how to detect objects in images. This method does not execute any sub sampling, but instead optimizes overall sub-windows. MMOD is used to enhance any object detection method which is linear in the learned parameters, such as Histogram of Oriented Gradient (HOG) or bag-of-visual-word models. Using this strategy we manifest substantial performance gains in three publicly available datasets. Evidently , we represent that a single firm HOG filter can conquer a set-of-the-art deformable part model on the object detection data set and benchmark when the HOG filter is assimilated via MMOD.**

***Keywords*- Python, Open CV component, video surveillance, detection, tracking, moving images, object detection.**

I. INTRODUCTION

nowadays, most of the living locality viz parks, metro stations, streets, shopping malls, schools and banks are supervise by video surveillance systems. accordingly, the researchers has been concentrating on moving object detection and tracking. These system predominantly comprise an breakthrough component for motion detection, object recognition, tracking, performance learning ,video retrieval. The technological advancement of cameras and computers used for recording and scrutinizing the video leads the requirement of automatic video scrutiny. But the fully automated surveillance systems are still deficient, So many research work has been done in this emanating field[4].

This paper addresses the real time object detection and tracking which are predominant and challenging function in many computer vision applications such as video surveillance, robot navigation, vehicle navigation & blind man navigation system. Object detection includes detecting the object in a succession of frames. Every tracking technique needs object detection mechanism either in each frame or in the video sequence. Object tracking is the process of locating an object or multiple objects using either static or dynamic webcam. Video surveillance makes it feasible that the computer can involuntarily locate, perceive and track the changes by the automatic examination of images in an order which is recorded by cameras in natural circumstances. Each and every application needs disparate requirements to use video processing by systematic manner. However, the common first step between all applications is finding regions that related to moving object. Motion detection is a difficult problem because of changes in scenes [4].

The accessibility of high power computers, high quality and low cost camera increases interest in object tracking algorithms. Three key steps for video analysis are: Detection of moving Objects, Tracking of that objects from frame to frame, Analysis of Object tracking to recognize their performance. The main application areas of object detection and tracking are: Motion based recognition, automated surveillance, video indexing, traffic monitoring, vehicle navigation and etc

Nowadays Image segmentation and classification for vision based detection and tracking of moving object in video surveillance is very useful for industrial purpose and also in security system .if we used this technique as security system in banking, court , hospitals ,school etc.. then it will be very useful for them. For example in a bank thief entered with a knife, gun etc.., and when it is captured by the webcam then it automatically margin that particular image ,capture the photo of that image and send it on a mobile of authority as a alert message to them.

In this paper we are using MMOD algorithm. Max-Margin Object Detection (MMOD), used for learning to detect objects in images. This technique does not carry out any sub-sampling, but instead optimizes over all sub-windows. On all datasets, using MMOD to discover the parameters of the detector lead to substantial enhancement [10].

37 82 | 175 10,11,12,13

Image Partitioning Techniques: A Review

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***Abstract*— A process of sub-dividing a digital form of an image into its parts (which might be an object or object-region) is popularly known as image partitioning or segmentation. This division technique allows to extract required parameters, attributes from a digital image, which are useful in further processing of an image. Different practical applications are now-a-days being designed which are based on segmentation. According to requirement of an application different types of segmentation algorithms are formulated, designed and applied. The choice is generally dependent on characteristics and attributes desired. This paper is intended to review existing image partitioning techniques and practices.**

Keywords— Feature, Seed, Segmentation, Region Growing, Texture.

I. INTRODUCTION

The image division is generally used to cluster no. of pixels of a digital image into some pivotal regions and its boundaries. The main reason behind performing image partitioning is to simplify image representation and/or to modify a digital image into more meaningful features and parameters which can be easily formulated and examined in a much simpler way. Image segmentation is quite handy tool in locating objects/regions and the boundaries of those regions (popularly known as principal components) present in any image. This means that an image segmentation/partitioning is nothing but a process of assigning a particular unique label to every pixel contained in an image wherein these components has common sharing of particular attribute/feature of an image (for e.g., intensity, brightness, texture and /or color). Image Division also helps to classify a digital image into a set of unique sub-regions with no overlapping with each other. [1][2]. An image segmentation tool, which is robust, efficient and reliable enough is required in a preprocessing operation stage of digital vision operations. Digital vision operations include object/region detection along with boundary recognition in an image. In image processing, color image segmentation is more allure than gray scale image segmentation, very basic reason behind same is that color image is capable of providing much larger amount of data/information than a gray scale image. Image segmentation tools finds application in various fields like wireless sensing networks, biomedical imaging operations, object/edge sensing, satellite imaging process, computer -vision, and many more to be listed. [1][3][5]

For an image analysis to be meaningful, the partitioned objects/regions must possess very strong correlation between attributes of those objects/regions of interest. This is a very first step in the process of transforming the digital image into subparts for high-level description of an image as objects, features and characteristics. The success of an image analysis tool completely depends upon its reliability in the process of image sub-division, but partitioning a digital image is mostly not so accurate and again it remains always, a challenging task. [1][2][4]Some popularly used techniques are used for image segmentation operations are as thresholding, normalized cut operations, mean-variation, component-labeling, k-means clustering algorithm, edge-detection technique, region growing approach, graph partitioning method and many more in the practice. The specific method/technique of an image segmentation with its scale and level of segmentation are basically designed or chosen on the basis of particular characteristics required for the application being designed. [1][2]

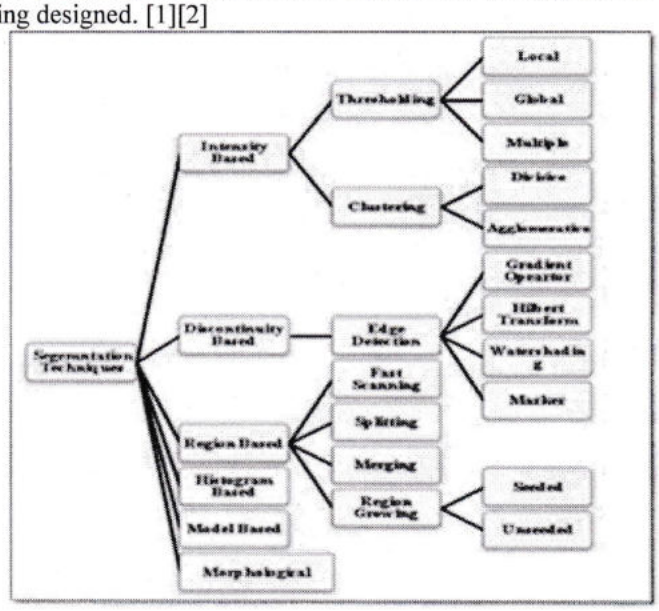


FIGURE 1. Popular Image Segmentation Techniques

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CNC Based Portable Pen Plotter

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***Abstract*— The term CNC applications refer to computerized numerically controlled machining applications. These techniques are used in manufacturing. Particularly in machining operations involving manufacturing of a wide variety of components with medium to high level of production and small to medium production batches. Added advantages are available when the components to be manufactured can form homologues groups of similar products, that reduces the effort and cost of programming for manufacture of each component. CNC machines are mostly results in lower manufacturing operations only when the above conditions are satisfied. For example, CNC machines are not favorable for very high- volume manufacturing of one standard product. In such cases it is less expensive to use special purpose machines rather than CNC machines. Also, it is undesirable to incur the high overhead cost of programming for manufacture of one-off components. In those cases, manually controlled machines are likely to provide most satisfactory solutions. The main objective is to gain products at a much lower manufacturing cost, compared to the one resulted from conventional applications. CNC applications, by their complexity, allow the obtaining of much more reduced manufacturing times as compared to the conventional ones. The use of modular systems for orientation equipment has reduced substantially the cost of fixtures. Also, the increase of the cutter life, allows the decreasing of tools purchasing costs. Tools magazines which are present in all manufacturing centers reduces need for large warehouse storage for these tools.**

***Keywords*— CNC, 3D printer, G-code, Arduino.**

I. INTRODUCTION

CNC is a generic term which can be used to describe many types of device, this would include plotters, vinyl cutters, 3D printers, milling machines and others. CNC stands for Computer Numerically Control and basically means that the physical movements of the machine are controlled with the help of few instructions like coordinate positions which can be generated using a computer. CNC plotter is a computer-controlled plotting machine related to the machine plotter used for plotting various schematics, such as maps, graphs, diagrams, pictures, circuits, and images. CNC plotter can perform the tasks of plotting on many surfaces such as paper, graphs, sheets and the PCB printing paper. The plotter stands for a computer printer for printing vector graphics. A plotter is capable of providing a hard copy of the output if needed. It is also capable of drawing pictures on a paper using a pen which is been included in this prototype. Pen plotters has mechanism for printing by moving a pen or other instrument across the surface of a piece of paper. Denotes means that plotters are vector graphics devices, rather than raster graphics as with other printers. Pen plotters are capable of drawing complex line art, including text, but do so slowly because of the mechanical movement of the pens. Mostly they are not capable of efficiently creating a solid region of color, but can hatch an area by drawing a number of close, regular lines. CNC plotter can reduce waste, frequency of errors, and the time the finished plot takes to get to table. Plotters are tool to provide efficient and fastest way to produce very large scale drawings and high-resolution vector-based artwork when computer memory was considerably expensive and processor power was very limited, and other types of printers possessed limited graphic output capabilities. Pen plotters have essentially become obsolete and have been replaced by large-format inkjet and LED toner based printers. These devices are mostly capable of learning vector languages which are originally designed for such a plotter and they offer a more reliable alternative for raster of data.

II. SYSTEM ORGANISATION

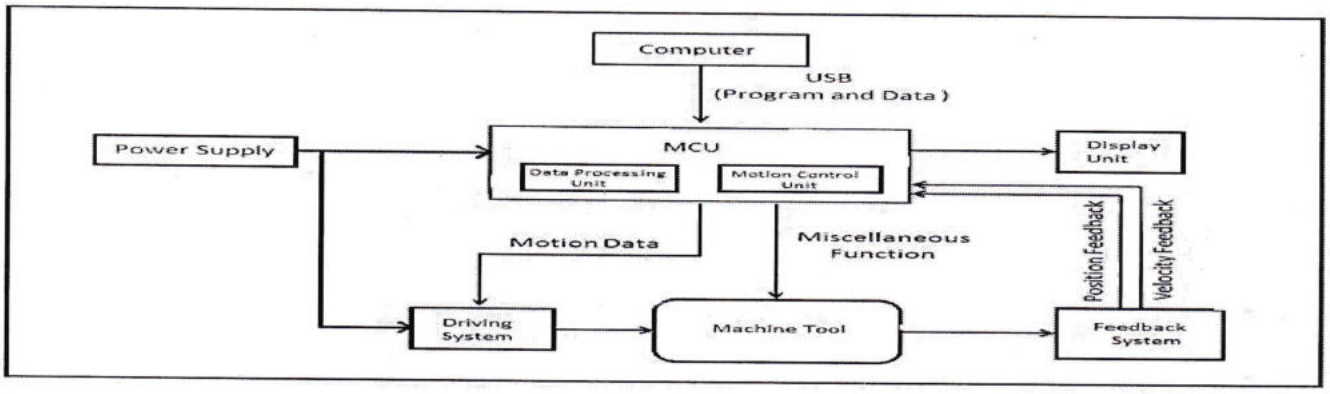


Fig: 1. Block diagram for CNC based 3D pen plotter.

39 84 1177 (6)

A Review on Artificial Intelligence Based Traffic Light Detection System for Autonomous Car

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Abstract— **Autonomous car is also referred as self-driving car which requires less input from human being to operate it for controlling its navigation or to accomplish other tasks. This proposed idea will help preventing accidents while following the traffic rules and avoiding collisions. In this paper, we will use Deep Learning techniques and the Tensor flow framework with the goal of navigating a driverless car through an urban environment. The novelty in this system is the use of Deep Learning vs. traditional methods of real-time autonomous operation as well as the application of the Tensor flow framework itself. This paper provides an implementation of protobuf and open CV for identifying driving indicators, how to implement them in a real system, and any unforeseen drawbacks to these techniques and how these are minimized and overcome. When detecting the traffic lights, if the traffic light is red the car won't move forward whether the driver is accelerating or not and same for the "stop" sign. It will slow the car speed if another car in front is too close and will break completely if the front object is close as a predefined distance. A radar system will be present at the backside of the car which will detect the vehicles coming too close and will inform the driver by a buzzer this will cause the driver to drive the vehicle more carefully. Number of accidents happens due to lack of skill, not following the traffic rules, lack of sleep, drunk etc. Accidents in which child get locked in the car and died. People are too careless with their life. Through this approach accidents can be prevented.**

Keywords— **Car, Autonomous, Self-driving, Artificial Intelligence, Driverless**

I. INTRODUCTION

An autonomous car is a vehicle that can guide itself without or little human conduction. This kind of vehicle has become a concrete reality and may pave the way for future systems where computers take over the art of driving. An autonomous car is also known as a driverless car, robot car, self-driving car or autonomous vehicle. This paper will help preventing accidents while following the traffic rules and avoiding collisions. The vehicle can accomplish this task by using sensors to "see" where it is and what is around it. These sensors vary from close range infrared sensors to longer ranged high frequency radar, 3d scanning LIDAR and global positioning systems.

Creating a low cost autonomous vehicle control system (AVCS) that could be used to convert a regular radio-controlled electric car to an autonomous driving vehicle platform has been the main goal of our paper. A successful implementation of this system allows the vehicle to follow lanes and avoid obstacles while maintaining a given minimum speed.

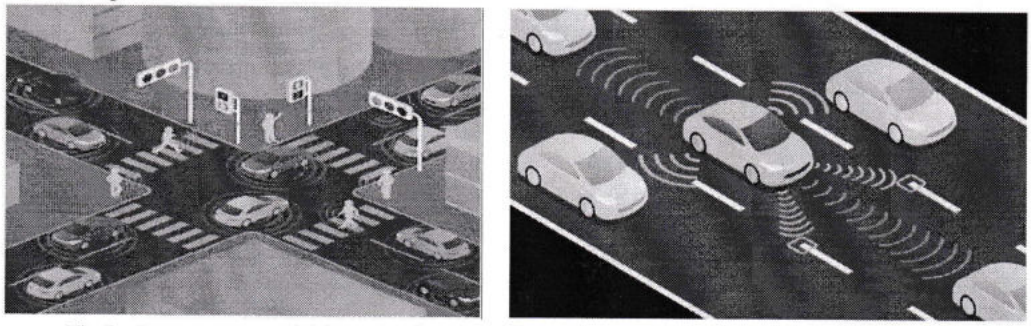


Fig.1: Autonomous vehicle control system for Traffic light detection & collision Avoidance

When detecting the traffic lights, if the traffic light is red the car won't move forward whether the driver is accelerating or not and same for the "stop" sign. It will detect and prevent the front collision of the car. It will slow the car speed if another car in front is too close and will break completely if the front object is close as a predefined distance. A radar system will be present at the backside of the car which will detect the vehicles coming too close and will inform the driver by a buzzer this will cause the driver to drive the vehicle more carefully. Number of accidents happens due to lack of skill, not following the traffic rules, lack of sleep, drunk etc. Accidents

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AUTOMATED GARBAGE MONITORING SYSTEM USING GPS, GSM AND IOT

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Abstract - In India, SWACCHA BHARAT ABHIYAN is a mission started by our P.M, Which aims to clean up the roads, streets and to develop the infrastructure digitally of India's city and rural areas. Focusing towards the clean India mission, we have provided an efficient solution for monitoring the waste level on the real time basis. Whole system is Internet of things based. The level ultrasonic sensors in the garbage dustbin detect the garbage level continuously and accordingly the system provides the information to the control office. This will avoid the overflowing of the garbage dustbins. Ultimately it will help us to keep our environment clean and also reduces the health issues. This project Internet of things Based Garbage Monitoring System is a very smart system which will help to keep our village and cities. We see that in our cities public bins are overloaded and it create unhygienic conditions for people and that place leaving a bad smell. To avoid all these things we are going to implement a project Internet of things based garbage monitoring System. These bins are interfaced with Arduino Uno base system having ultrasonic sensor along with central system showing the Current status of waste on display and web browser HTML page with Wi-Fi module. To increase the cleanliness in the country government started the various project.

Keywords - **IOT, Cloud, GPS, Ultra Sonic sensor, ESP8266, ATMEGA328, GSM, etc…**

I. INTRODUCTION

Due to increase in population of India it also leads to increase in the garbage also. India faces major environmental changes associated with inadequate waste garbage collection, transport and disposal[6]. we need many man powers, by this waste management monitoring system we reduce the man power with the help of embedded system is interfaced with Internet of things[6]. Implementation is done with the help of Internet of thinks concept. The Internet of things is a concept in which surrounding objects are connected through wired and wireless networks without user intervention. Objects communicate and exchange information. In this system multiple bins are located throughout the cities or the Campus, these bins are provided with a ultrasonic sensor which helps in tracking the level and weight of the garbage dustbins and a unique ID will be provided for every bin in the city so that it is easy to identify which garbage dustbin is full[5].

The model uses a Wi-Fi module (ESP8266) which sends data to a web server which is developed by the authors using Bootstrap. The data sent with a timestamp by the RTC module which also provides the user with the location of the dustbin by the use of a GSM module. The solutions created for management of waste garbage faces its own difficulties. The solution proposed by suggest the use of only a GSM module and an sensor which send the status of the dustbin directly to the registered number.

For effective usage of the monitoring system, IOT concept has been used for data communication, processing, storing and retrieving. The proposed work helps to eradicate the everyday difficulty of managing the garbage in the environment which is possible with the help of Internet of things [7]. These system consists of an Arduino Uno microcontroller, a garbage dustbin loaded with ultrasonic sensors and they are monitored continuously through a monitoring panel at the control office with the help of GSM & GPS module [7].We may dump the waste in the government allocated bins in area/locality or hand it over to the door to door collectors and after that the garbage should reach its end site which is very crucial and that's where our proposed model is going to fit in[8].

II. LITERATURE REVIEW

S.S.Navghane, M.S.Killedar [1] 2017 These dustbins are interface with microcontroller based system having IR wireless systems along with central system showing current status of garbage, on mobile web browser with HTML page by Wi-Fi module. . The main aim of this project is to reduce human resources and efforts along with the enhancement of a clean city vision.

Ashima Bajaj [2] 2017 this method is advance in which garbage monitoring system management is automated. This project Garbage Monitoring system using Internet of things is a very innovative system which will help to keep the cities clean.

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A Review on Comparative Analysis for Lane Detection System Using Canny Edge Detection, Hough Transform and Kalman Filter

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Abstract- **Many of the researchers are developing an efficient technology for automated alarm system while crossing through lanes on roads. Lane detection through image processing is one of the major tasks. A camera has been mounted in the front of vehicle to take real time images; and a fast processor can be use to automatically detect lanes according to image processing algorithms. This paper is based on algorithm development using canny edge detector and Hough transform. The Raspberry Pi is used for real time processing of image. Global Positioning System, which the technology used to find the location. GPS can be interfaced with the Raspberry Pi Serially to get the positioning parameters like Latitude and Longitude. The live position of the vehicle on road has been detected on map.**

Keywords- **Lane detection, Canny Edge Detector, Hough Transform, GPS modem ,Raspberry Pi.**

I.INTRODUCTION

Vehicle accidents on roads are the major problem faced by the government of any country. There may be various reasons of accidents; it can be due to bad visibility, consumption of alcohol during driving, inattention during driving a car, etc. Whatever be the reason of accidents, it causes severe loss in form of infrastructure or a life. One of the major reasons of accident is sudden change in lane on a fast driving road. If all vehicle will follow single lane then traffic jam will be minimize, so lane detection can avoid unnecessary traffic jams. It is essential to develop systems that can assist driver while navigating on the road.

Lane identification system can immensely help the purpose. Detection of tracks and obstacle on roads can be done by using proximity sensors, which can identify the ground plane but it cannot identify shape and various properties of the object or ground.

An IR sensor can be used to detect roads, but it has various limitations. Considering these facts, today's research focuses more on digital image processing approaches. Autonomous lane detection is challenging due to range of environmental conditions under which these systems operate: rain, shadow, sunshine, day, night, fog etc. This paper is describing lane detection using canny edge detector and Hough transform with kalman filter.

II .LITERATURE REVIEW

This paper develops a robust and effective vision-based lane detection approach as in [1]. In the proposed method, gray-scale images are converted to two binary images from a fixed region of interest (ROI). These images are then merged using a novel neighborhood AND operator and then transformed to a bird's eye view (BEV) via inverse perspective mapping (IPM). Experimental results show that the proposed method accurately detects lanes in complex situations including worn-out and curved lanes. This paper proposes a robust lane detection method under the assumption that lane markings are parallel.

Y. Xu, X. Shan as in [2] has proposed a method for lane detection based on combined fuzzy control with RANSAC algorithms. Author suggested the traditional lane detection methods based on the RANSAC algorithm used to cause many false detection and unable to accurately detect the lanes in complex road environment, because of the existence of interferential noise points in the set of sampling points.

M. Kodeeswari has developed a method based on image processing techniques to identify the lane lines on the hilly road based on Hough transform as in [3]. The proposed method processes the live video stream from a monocular camera using matlab and extracts the position of lane markings and an algorithm is used to find the lane lines present on the road.

Jieh-Shian Young proposed a method for the positions of the lane marks can be evaluated by visual information of the image captured from a single charge-coupled device (CCD) camera as in [4]. This proposed approach originally utilizes the properties of the CCD array in a camera to achieve the aim of objects positioning. The results show that the proposed approach is able to achieve object positioning. The accuracy of the position evaluations depends on the pixels of objects picked out in an image, while it is sometimes not easy to discern the exact pixels of objects in the image. The image disturbances from vehicle vibrations or image background are also significant for the position evaluation accuracy.

Jongin Son proposed strategy for functions admirably in different lighting conditions like awful climate conditions and at evening time as in [5]. They have considered the three noteworthy segments: 1)they distinguished a flight point in view of a voting map and recognize a versatile region of interest (ROI) to diminish computational complexity.2) They have utilized the distinctive property of path hues to finish lighting invariant path marker applicant location. 3) Lastly they locate the principle path utilizing a clustering technique from the path marker competitors. At the season of lane departure, their framework closes driver caution flag. The creators got a normal discovery rate of 93% under different lighting conditions and the general procedure takes just 33 ms for every frame.

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IMAGE SEGMENTATION AND CLASSIFICATION FOR VISION BASED DETECTION AND TRACKING OF MOVING OBJECT IN VIDEO SURVEILLANCE.

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Abstract: *Moving object detection and tracking field gains a vast interest in it. Most of the moving objects detection methods operate by trying a binary classifier to sub-windows of an image, after that a non-maximum suppression step comes where detections on overlapping sub-windows are eliminated. As the number of feasible sub-windows in even middling sized image datasets is very large, the classifier is usually learned on only a subset of the windows. This circumvent the computational complexity and difficulty of dealing with the entire set of sub-windows , however, this paper address that, it leads to sub-optimal detector performance. Specially , the main offering of this paper is the initiation of a new method, Max-Margin object detection (MMOD), for understanding how to detect objects in images. This method does not execute any sub sampling, but instead optimizes overall sub-windows. MMOD is used to enhance any object detection method which is linear in the learned parameters, such as Histogram of Oriented Gradient (HOG) or bag-of-visual-word models. Using this strategy we manifest substantial performance gains in publicly available datasets. We represent that a single firm HOG filter can overcome a set-of-the-art deformable part model on the object detection data set and benchmark when the HOG filter is assimilated via MMOD.*

Keywords: *Python, Open CV component, video surveillance, detection, tracking, moving images, object detection.*

I.INTRODUCTION

Nowadays, most of the living locality parks, metro stations, streets, shopping malls, schools and banks are supervise by video surveillance systems. accordingly, the researchers has been concentrating on moving object detection and tracking. These system predominantly comprise an breakthrough component for motion detection, object recognition, tracking, performance learning ,video retrieval. The technological advancement of cameras and computers used for recording and scrutinizing the video leads the requirement of automatic video scrutiny. But the fully automated surveillance systems are still deficient, So many research work has been done in this emanating field[4].

This paper addresses the real time object detection and tracking which are predominant and challenging function in many computer vision applications such as video surveillance, robot navigation, vehicle navigation & blind man navigation system. Object detection includes detecting the object in a succession of frames. Every tracking technique needs object detection mechanism either in each frame or in the video sequence.

Moving (mobilise) object tracking in real time basis is the process of locating an object or multiple objects using either static or dynamic webcam. Video surveillance makes it feasible that the computer can involuntarily locate, perceive and track the changes by the automatic examination of images in an order which is recorded by cameras in natural circumstances. Each and every application needs disparate requirements to use video processing by systematic manner. However, the common first step between all applications is finding regions that related to moving object. Motion detection is a difficult problem because of changes in scenes [4].

The accessibility and availability of high power computers, high quality and low cost camera increases interest in object tracking algorithms. Three key steps for video analysis are: Detection of moving Objects, Tracking of that objects from frame to frame, Analysis of Object tracking to recognize their performance. The main application areas of object detection and tracking are: Motion based recognition, automated surveillance, video indexing, traffic monitoring, vehicle navigation and etc

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at the Institute of Management, Nirma University, Ahmedabad, January 03–05, 2020.

He / She has presented the paper titled

An Evaluative Study of Cognitive and Emotional Responses of Consumers towards Marketing - Stimuli through Traditional Neuro-Marketing Approach

Co-authored by

Dr. Sapna Parashar	Dr. Tejas Shah	Dr. M. Mallikarjun
(Conference Chairperson)	(Conference Chairperson)	(Director, IMNU)

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He / She has presented the paper titled

Investor's awareness scrutiny towards electronic investment avenues with specific reference to Amravati City

Co-authored by

SACHINKUMAR KADU

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3.3.4 - Books and Chapters in edited Volumes / Books published, and papers in National/International

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Elect. Engg.	00
Civil Engg.	01
EXTC	00
M.C.A	00
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Total	**03**

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MCH-124

EXPERIMENTAL INVESTIGATION ON THE PERFORMANCE OF MODIFIED EVAPORATIVE COOLER

Mr. Sumit S. Kalmegh, Mr. Sumit S. Jamkar, Dr. Sachin S. Ingole, Mr. Pawan M. Kurwade, Dr. Somdatta M. Tondre

Abstract-The evaporative cooling is one of the earliest methods employed by human being for conditioning their houses. Only in recent years, it has been put on sound footing thermodynamically. It is a process of adiabatic saturation of air when a spray of water is made to evaporates into it without transfer of heat from or to the surrounding. Despite of some limitations evaporative cooling will produce a condition well within the summer comfort zone. Generally human being feels comfortable when dry bulb temperature is in the range of 22°C to 25°C and relative humidity is in the range of 55% to 60%. An Experimental investigation has been carried out by modifying the existing evaporative cooler. Result shows that the DBT is reduced by 13°C; relative humidity maintained in range of comfort zone i.e. 56 % and evaporative cooling efficiency of cooler is improved up to 55% when compared with summer outdoor conditions in Vidarbha (Maharashtra, India) region.

Keywords-Evaporative cooling, Evaporative cooling efficiency, Venturi effect, DBT, Relative humidity

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Effect of Footing Shapes and Reinforcement on Bearing Capacity of Three Adjacent Footings

Construction in Geotechnical Engineering pp 135-148 | Cite as

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Abstract

The effect of geogrid reinforcement on bearing capacity was studied on three surface square footings in series. Parameters included under the reinforcement configuration were, length of reinforcement on either side beyond center of footings (Lx), depth of first geogrid layer (u), vertical distance between geogrid layers (h) and center to center distance between three footings (S). Also influence of footing shapes was studied for square, circular and rectangular shape of same cross-sectional area for optimum reinforcement configuration. In order to evaluate these effects, laboratory model tests were conducted at 55% relative density of sand. Bearing capacity of adjacent footings has been observed to be improved by providing geogrid reinforcement layer in the foundation soil under closely spaced footings. It was observed that the reinforcement configurations play a vital role in bearing capacity improvement. It was also observed that bearing capacity of the soil varies with the shape of footings.

Keywords

Three footing Bearing capacity Geogrid-reinforced sand

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About this paper

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Interference Behavior of Four Adjacent Footings on Geosynthetic Reinforced Sand

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Abstract

Bearing capacity, the supporting power of soil plays an important role in design of shallow foundation. The general scenario is to design the footing as an isolated footing. The interference and spacing effects are generally ignored while designing the footings. In recent years, several heavy axisymmetric structures are coming up very close to each other. Also uses of geosynthetic materials are mostly preferred as soil reinforcement for improving the performance of shallow foundation. The effect of interference of adjacent footing may change the behavior from serviceability point of view and therefore, a need is felt to investigate the effect of interference between closely spaced footings on reinforced soil. In the present study, the bearing capacity of four square adjacent footings on geosynthetic reinforced sand and the effect of different parameters contributing to their performance were studied using model plate load tests. The parameters included were footings placement pattern, depth of footings, type of reinforcement, and number of reinforcement layers. In each case, different center to center distance between footings were applied for the purposes of comparison among all of the results. To evaluate these effects, laboratory model plate load tests were conducted at 55% relative density of sand. It was observed that the footing placement pattern, depth of footings, type of reinforcement, and number of reinforcement layers play a significant role in bearing capacity. The bearing capacity of intertering footing increases as the spacing between footing decreases. Load responses of four footings are similar to those of the single footing at distances greater than three times the footing width.

Keywords

Bearing capacity Four adjacent footings Reinforced sand Footing interferences
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Keywords

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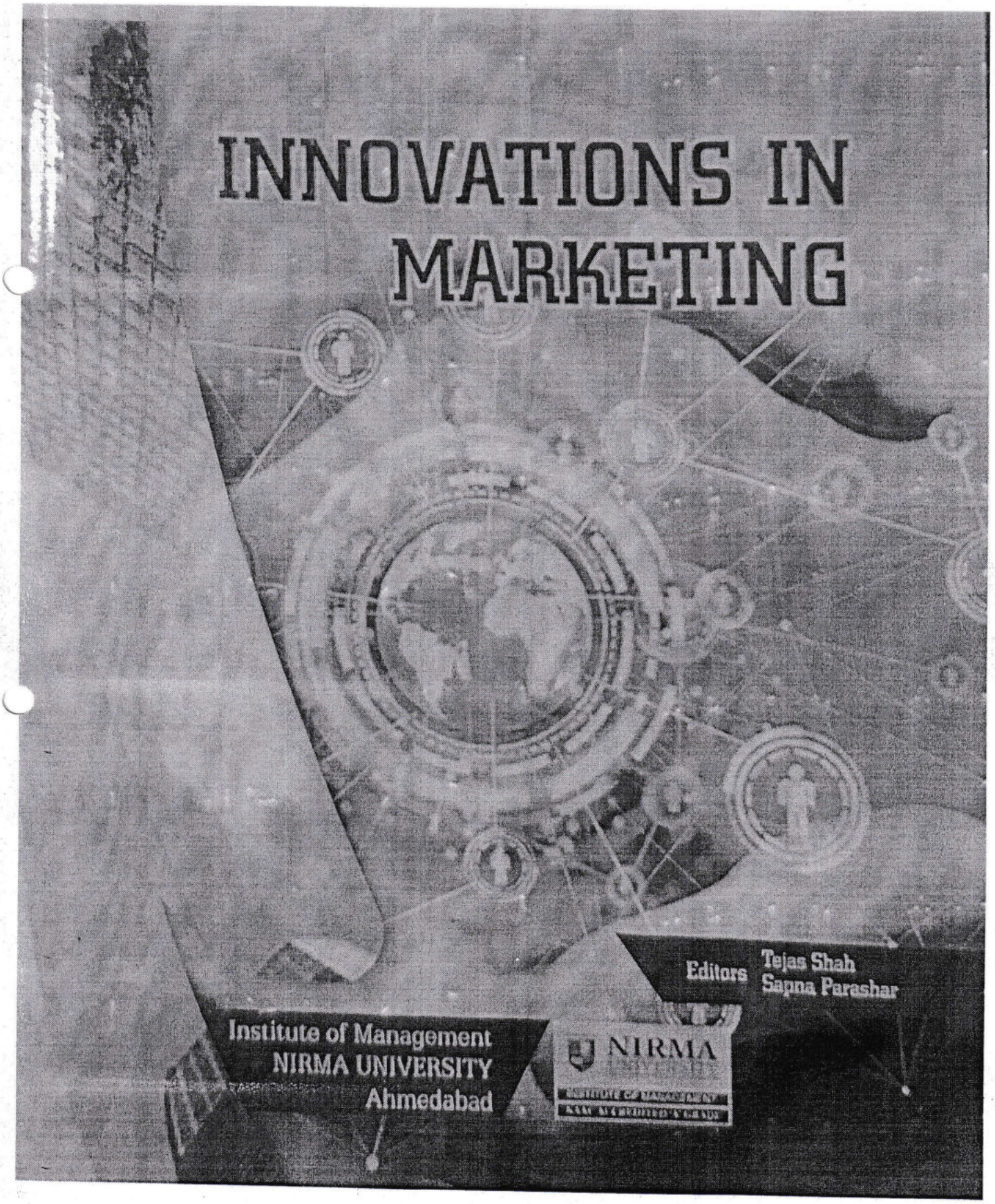
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Investor's Awareness Scrutiny towards Electronic Investment Avenues with Specific Reference to Amravati City

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ABSTRACT

Technology continuously forcing financial institutions to create structural changes in offering the services related to selection of investment avenues. This research study was undertaken with specific purpose of measuring the level of investor readiness towards the use of electronic medium for various investment avenues, to facilitate further improvement in expanding active investor involvement at low cost. Although investors use technology to avail a quick financial information, but research focus was required to understand whether the same convenience continues while using electronic medium during actual investment action. The descriptive research was undertaken. The live responses of investors were collected through the structured questionnaire, which were analyzed by using statistical tools like correlation, chi-square analysis, cross tabulation. Although positive responses were seen towards the awareness for electronic investment, but considerably weak responses were observed towards actual use of electronic platform during investing process. A positive correlation found between investor perceived risk and selection of the investment medium. This research study claims practical implications by offering insightful information in understanding the attitude of semi-urban investors thus providing strategic advantage to researchers, marketers and businesses. This study delivers the value as meaningful conclusions are drawn on the basis of first-hand information collected from investors of semi-urban background, considering the limitations of previous researches.

Keywords: Investor Awareness, Investor Readiness, Investment Avenues, Electronic Investment, Semi-Urban Investors

INTRODUCTION

In today's scenario people are concerned about their future than present situation, they are more concerned about framing their dreams, creating extra income sources to fund and fulfill these dreams. Fast-changing and dynamic financial environment at local as well as global level is one of the main reason or this concern. Human earn more money through the specific source and make expenditure for their source of finance and make expenditure for their need, and rest amount management is necessary as this creates a wealth for their further dreams and all. Earning of human is divided into two parts savings and investments. Saving where money is stable with the fix amount of return and investment is a circulation of money,where itdecreases or increases. Although people try to get more money to complete their dreams, desires.

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

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3.3.5 - Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index

Title of Paper	Name of Author	Title of the Journal	Year of Publication	Citation Index	Institutional affiliation as mentioned in the publication	No. of citations excluding self citation
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To Study AC electrical conductivity of TiO2 doped polyaniline.	N R Thakare Swapnil Sawant R. N. Bhagat S D Wakde	International journal of Recent Technology and Engineering	ISSN 2277-3878 Dec 2019	-	-	-
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To Study AC electrical conductivity of TiO2 doped polyaniline.

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Abstract
In the present research work we make a pallet of PANI+TiO2 and then we determined the AC electrical conductivity of polyaniline and polyaniline doped TiO2. Effect of Temperature on A.C. conductivity at varying frequency is also studied.

1. Introduction.

The synthesis of conducting polymer has been accomplished by oxidizing or reducing process either through chemical doping or electrochemical doping [1,2] various application of conducting polymer have been proposed as transducer of biosensor gas sensor transistor[3,4] Polyaniline (PANI) continues to attract considerable attention because its electrical and optical properties can be changed by oxidation and protonation of the amine nitrogen atoms. The protonation and deprotonation and various other physico-chemical properties of polyaniline is due to the presence of the –NH- group. [5 6] There are several reports of polyaniline found in the literature over the decades about the structure and constitutional aspect of aniline polymerization[7-10]. The primary and secondary structure describes the connectivity of the atoms and the three dimensional shape due to short range non- bonded interactions, such as backbone twisting respectively our aim is to determine the AC electrical conductivity of PANI doped TiO2.

2. Materials Used and Preparation of samples

2.1: Polyaniline (PANI):-

Chemical formula :(C_6H_7N)$_n$
Polyaniline (PANI) is a conducting polymer of the semi-flexible rod polymer family. Although the compound itself was discovered over 150 years ago, only since the early 1980s polyaniline captured the intense attention of the scientific community. This interest is due to the rediscovery of high electrical conductivity. Amongst the family of conducting polymers and organic semiconductors, polyaniline has many attractive processing properties. Because of its rich chemistry, polyaniline is one of the most studied conducting polymers of the past 50 years.

2.2: Preparation of samples.

"Standard"preparationofpolyaniline
Project participants followed the same instructions to oxidize 0.2 M aniline hydrochloride with 0.25M ammonium peroxydisulfate in aqueous medium. Aniline hydrochloride (purum; 2.59g, 20mmol) was dissolved in distilled water in a volumetric flask to 50 mL of solution. Ammonium peroxydisulfate (purum; 5.71 g, 25 mmol) was dissolved in water also to 50 mL of solution. Both solutions were kept for 1 h at room temperature (~18–24 °C), then mixed in a beaker, briefly stirred, and left at rest to polymerize. Next day, the PANI precipitate was collected on a filter, washed with three 100-mL portions of 0.2 M HCl, and similarly with acetone. Polyaniline (emeraldine) hydrochloride powder was dried in air and then in vacuo at 60 °C. Polyanilines prepared under these reaction and processing conditions are further referred to as "standard" samples. Additional polymerizations were carried out in an ice bath at 0–

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Abstract
In the present research work we make a pallet of PANI+TiO2 and then we determined the AC electrical conductivity of polyaniline and polyaniline doped TiO2. Effect of Temperature on A.C. conductivity at varying frequency is also studied.

1. Introduction.

The synthesis of conducting polymer has been accomplished by oxidizing or reducing process either through chemical doping or electrochemical doping [1,2] various application of conducting polymer have been proposed as transducer of biosensor gas sensor transistor[3,4] Polyaniline (PANI) continues to attract considerable attention because its electrical and optical properties can be changed by oxidation and protonation of the amine nitrogen atoms. The protonation and deprotonation and various other physico-chemical properties of polyaniline is due to the presence of the –NH- group. [5 6] There are several reports of polyaniline found in the literature over the decades about the structure and constitutional aspect of aniline polymerization[7-10]. The primary and secondary structure describes the connectivity of the atoms and the three dimensional shape due to short range non- bonded interactions, such as backbone twisting respectively our aim is to determine the AC electrical conductivity of PANI doped TiO2.

2. Materials Used and Preparation of samples

2.1: Polyaniline (PANI):-

Chemical formula :(C6H7N) n
Polyaniline (PANI) is a conducting polymer of the semi-flexible rod polymer family. Although the compound itself was discovered over 150 years ago, only since the early 1980s polyaniline captured the intense attention of the scientific community. This interest is due to the rediscovery of high electrical conductivity. Amongst the family of conducting polymers and organic semiconductors, polyaniline has many attractive processing properties. Because of its rich chemistry, polyaniline is one of the most studied conducting polymers of the past 50 years.

2.2: Preparation of samples.

"Standard"preparationofpolyaniline
Project participants followed the same instructions to oxidize 0.2 M aniline hydrochloride with 0.25M ammonium peroxydisulfate in aqueous medium. Aniline hydrochloride (purum; 2.59g, 20mmol) was dissolved in distilled water in a volumetric flask to 50 mL of solution. Ammonium peroxydisulfate (purum; 5.71 g, 25 mmol) was dissolved in water also to 50 mL of solution. Both solutions were kept for 1 h at room temperature (~18–24 °C), then mixed in a beaker, briefly stirred, and left at rest to polymerize. Next day, the PANI precipitate was collected on a filter, washed with three 100-mL portions of 0.2 M HCl, and similarly with acetone. Polyaniline (emeraldine) hydrochloride powder was dried in air and then in vacuo at 60 °C. Polyanilines prepared under these reaction and processing conditions are further referred to as "standard" samples. Additional polymerizations were carried out in an ice bath at 0–

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Synthesis of Nano-Cadmium Sulfide Using Urea as a Capping Agent

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Abstract: *Cadmium sulfide has been synthesized using chemical solution method having average particle size 20 nm. CdS nanoparticles are prepared by using urea as a capping agent and variety of techniques like X-Ray Diffraction (XRD), Tanning Electron Microscopy (TEM), and Fourier Transform Infrared Spectroscopy (FTIR) are used to carry out structural characterization of the nanoparticles.*

Keywords: *Nano-CdS, Urea, X-ray diffraction, TEM, FTIR*

I.INTRODUCTION

In recent years, semiconductor nanocrystals have attracted much attention in both fundamental research and technical applications, owing to their unique size-dependent optical and electronic properties [1-3]. Large scale synthesis of such semiconductor nanoparticles such as solid powder is critically important not only for the study of their physical properties but also for industrial allocation in the area of catalysis, photo catalysis and microelectronics [4-5]. CdS is from one of the most important group II-VI semiconductors having band gap energy 2.43 eV and widely used in the application of optoelectronic devices, preparation of cadmium-coated baths, manufacture of paint pigments and to study its properties [4]. Many organic passivators such as 1-thioglycerol, thiophenol [6], thiourea [7] and mercapto acetate [8] and so on, are toxic, which will pollute the environment if large-scale nanoparticles are produced. The basic aim of the present research work is to synthesis CdS nanoparticles on large scale, which is environmentally non-toxic and controllable, using urea as one of the best capping agent and investigated its electronic properties [9].

II.EXPERIMENTAL

II.1 MATERIALS

All the reactants and solvents used in this work were of analytical grade and used without any further purification. Cadmium nitrate (Sd fine-Chem limited) and Sodium sulphide (Sd fine-chem limited) were used as received. NaOH was obtained from Supreme Petrochemicals Private Limited Mumbai, India and used without further treatment. Urea was purchased from (Sigma-Aldrich). Deionised water was used as a solvent.

II.2 CHARACTERIZATION

The powder X-ray diffraction (XRD) was made on a PHILLIPS HOLLAND PW 1710 X-ray diffractometer using CuKα radiation (λ=0.154056 nm). The morphology of nanoparticles was observed with a TEM, Hitachi H-7100 Transmission Electron Microscopy. The dried nanoparticles mixed with KBr were characterized with Fourier Transform Infrared Spectroscopy (FTIR) on SHIMADZU. UV-Vis absorption spectrum of the nanoparticles was recorded at room temperature with a SHIMADZU (visible spectrometer) UV-1700 series. All measurements were made under ambient conditions

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DC ELECTRICAL CONDUCTIVITY AND THERMAL ANALYSIS OF LOW DENSITY POLYETHYLENE FILLED WITH ZINC OXIDE NANOPARTICLES

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ABSTRACT

This paper describes the studies related to Zinc Oxide nanoparticles (0, 0.5, 1, 3 and 5 wt. %) filled Low Density Polyethylene thin films prepared by solution casting technique. The DC electrical conductivity of ZnO/LDPE nanocomposite thin films was studied as a function of temperature and filler concentration. The conductivity was found to be sensitive to the temperature and also increased with increase in temperature and concentration of ZnO NPs. The activation energy, Ea, was calculated from the graph of log σ vs 103/T plot within low and high temperature regions. The thermal transition of the nanocomposites was evaluated using DSC analysis

Keywords: ZnO NPs, LDPE, Polymer Nanocomposites, DC conductivity, DSC.

1. Introduction

Recently nanocomposite materials have become one of the most extensively studied material all over the world. The area of polymer nanocomposites has grown to represent one of the largest classes within the scope of materials science, becoming a key area in nanoscience and nanotechnology offering significant potential in the development of advanced materials in numerous and diverse application areas (Ajayan P M , 2000; Thostenson E T, 2001; Ray S S and Okamoto, 2003).

Organic/inorganic nanocomposites are generally organic polymer composites with inorganic nanoscale fillers. The integration of inorganic nanoparticles into a polymer matrix allows both properties from inorganic nanoparticles and polymer to be combined/ enhanced. (Li S et al, 2010). Generally, these nanocomposites are endowed with the special properties of the nanofillers, leading to materials with quite innovative characteristics.

Polymer Inorganic Nanocomposite of LDPE and ZnO NPs were prepared with the view that they can exhibits some novel properties. Thus in the present work, ZnO/ LDPE nanocomposites were prepared by adding the ZnO NPOs in different weight % (0, 0.5, 1.3 and 5) in LDPE. In this paper the effect of doping inorganic ZnO NPs on the electrical and thermal properties of LDPE is enclosed.

2. Experimental

Commercial grade granular LDPE provided by Indothene (24FS040) was used as it is and Xylene (AR Grade, E Merck) as a solvent. The hexagonal Wurtzite structured Zinc oxide nanoparticles (ZnO NPs) with average crystalline size about 80 nm, synthesized by a simple chemical solution method followed by combustion (Golchha M C et al, 2011), and used as filler.

Thin films of ZnO/LDPE nanocomposites were prepared by using solution - cast technique (Sangawar V S et al, 2006). LDPE was dissolved in Xylene using hot plate magnetic stirrer at 100°C for 2 hrs. Then ZnO NPs were added to the solution of

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Cosmological Model In Self-Creation Theory of Gravitation

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Abstract:
In this paper, we have investigated the Barber second self-creation cosmology with macroscopic body as a source of matter in Bianchi type-III space time. Exact cosmological model is obtained by using relation between metric coefficients i.e. and radiation universe. Also, we have discussed the features of the obtained solutions.
Keywords: Bianchi type –III metric, macroscopic body and self- creation Theory.

I Introduction

Bianchi type cosmological model are important in the sense that these are homogenous and anisotropic, from which the process of isotropization of the universe is studied through the passage of time. Moreover, from the theoretical point of view anisotropic universe have a greater generally than isotropic models. The simplicity of the field equations made Bianchi space time useful in constructing models of spatially homogenous and anisotropic cosmologies.

Barber has invented two continuous self-creation theories by modifying the Brans and Dicke theory and general relativity. These modified theories create the universe out of self-contained gravitational scalar and matter fields. Brans has pointed out that the Barber's first theory is not only in agreement with experiment but also inconsistent in general. Barber's second theory is a modification of general relativity to a variable G-theory. In this theory the scalar field does not directly gravitate but simply divides the matter tensor acting as a reciprocal gravitational constant.
The Barber field equation in second self-creation theory (Barber, 1982) can be expressed as

$$R_{ij} - \frac{1}{2} R g_{ij} = -8\pi\phi^{-1} T_{ij} \qquad (1)$$

and

$$\Box\phi = \phi^{;k}_{;k} = \frac{8\pi\lambda}{3} T \qquad (2)$$

where ϕ is the Barber's scalar, T_{ij} is the energy momentum tensor,
$\Box\phi$ is the invariant D'Alembertian, T is the trace of energy momentum tensor T_{ij}, λ is a coupling constant to be determined from experiment and $0 \prec |\lambda| \prec 1/10$.

In the limit $\lambda \to 0$, this theory approaches the Einstein's theory in every respect. Due to the nature of the space time Barber's scalar ϕ is a function of 't'.

Reddy (1987 a, b), Maharaj et al (1988), Shanti and Rao (1991), Mohanty et al (2000,2002), Adhav et al (2008) etc. are some of the authors who have investigated various aspects of Barber's self-creation theories. Singh and Suresh Kumar (2007) have studied Bianchi type-II space times with constant deceleration parameter in self creation cosmology. Also, Reddy DRK (2005), Adhav et al

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OZONE LAYER DEPLETION

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ABSTRACT

Background: [illegible] ozone layer depletion. Methodology: [illegible] Results: [illegible] Conclusion: [illegible]

Keywords: ozone layer, irreversible thermodynamics

Introduction

The steady state solution of the system outlined the fact that the ozone layer can reach a steady state for any pollutant concentration values. The natural limit of the ozone concentration, as well as the upper limits for the pollutant concentration was calculated. The procedure suggested a way of assessing the effect of anthropogenic activities on ozone layer. The transmission coefficients of the UV radiation were calculated establishing the lower limits of the "permitted" pollution. Ozone layer stability was studied in the framework of irreversible thermodynamics. The following 16 chemical reactions describing the ozone creation and destruction processes in the stratosphere were considered.

$O_2 + h\nu \rightarrow 2O$

$O + O_2 + M \rightarrow O_3 + M$

$O_3 + h\nu \rightarrow O_2 + O^*$

$O_3 + O^* \rightarrow O_2$

$HO + O_3 \rightarrow HO_2 + O_2$

$HO_2 + O \rightarrow OH + O_2$

$NO_2 + h\nu \rightarrow NO + O$

$NO + O_3 \rightarrow NO_2 + O_2$

$NO_2 + O \rightarrow NO + O_2$

$Cl + O_3 \rightarrow ClO + O_2$

$ClO + O \rightarrow Cl + O_2$

$ClO + NO \rightarrow NO_2 + Cl$

$HO_2 + Cl \rightarrow HCl + O_2$

$HCl + OH \rightarrow H_2O + Cl$

$CF_2Cl_2 + h\nu \rightarrow CF_2Cl + Cl$

$CFCl_3 + h\nu \rightarrow CFCl_2 + Cl$

In the above, M stands for a catalyst

Species continuity equation was applied for 11 relevant species taking in to account vertical motion through eddy diffusion term. This gave set of 11 partial and coupled differential equations dependent on time and altitude. For various species, the basic species continuity equation is given as

$$\frac{dXi}{dt} = Ji Ci + \sum_{n=1}^{m} kn \pi C_i^{\gamma}$$

Where n any single reaction
γ stoichiometric coefficient
m number of species in the reaction
l number of reaction

The eleven species considered were O,O_2,HO_2,O_3 $ClO,NO,NO_2,HO_2,E-11,E-12,HCl$. The model of ozone layer lead to a system of non-linear differential equations. To solve these equations, numerical discretization method was employed using semi-implicit finite difference schemes. The simultaneous equations thus obtained were solved using matrix inversion technique for a tridigonal matrix where the MxM matrix is transformed to Mx3 matrix reducing the computer storage memory and time. Steady state solution of the system indicated that ozone layer stability is independent of pollutant concentration viz. Freon-11 and Freon-12 and is instead strongly dependent on the relation between HO_2 and NO_2 concentration in the stratosphere

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BIANCHI TYPE-V COSMOLOGICAL MODEL OF NON-LINEAR SPINOR FIELD COUPLING WITH ELECTROMAGNETIC FIELD

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ABSTRACT
We have to consider an interacting system of nonlinear spinor and electromagnetic field within the scope of Bianchi type –V cosmological model. As a result, quadrature type solution is found. In the frame of the present cosmological model we have discussed the geometrical and physical properties of Bianchi type-V model.
Key Words : Bianchi type-V model, Nonlinear spinor field , Electromagnetic field.

1. INTRODUCTION

The discovery of the cosmic microwave radiation has motivated a rising interest in anisotropic general-relativistic cosmological models of the universe. The preference of anisotropic cosmological models in the system of Einstein field equations, the early day universe, which had an anisotropic phase that approaches an isotropic one. Misner [1] suggested that the dissipation due to neutrino viscosity may considerably reduce the anisotropy of the black body radiation Bianchi type-I cosmological models that are anisotropic homogeneous universes play an important role in understanding essential features of the universe, such as formation of galaxies during its early stage of evolution. Thorne [2] has investigated locally Rotationally Symmetric (LRS) Bianchi type I model containing a magnetic field directed along one axis with a barotropic fluid. Jacobs [3, 4] investigated Bianchi type I models with magnetic field satisfying a barotropic equation of state. Bali [5] studied the behavior of the magnetic field in a Bianchi type I universe for perfect fluid distribution. Bijan Saha et al [6] investigate Bianchi type VI model with cosmic strings in the presence of magnetic field. Also, B Saha [7] has studied Bianchi type I cosmological model filled with magneto fluid and he make attempt to study a system where all the four fluids, scalar, spinor, electromagnetic and gravitational ones play active part in the evolution process. Rybakov et al [8] has studied the system of spinor and electromagnetic field within the scope of Bianchi type I cosmological model and examine the influence of such interaction on expansion of the universe in the asymptotic region. Upadhaya et al [9], have investigated Bianchi type III massive string cosmological model in presence of magnetic field.

On the other hand, the magnetic field has an important role at the cosmological scale and is present in galactic and intergalactic spaces. Any theoretical study of cosmological models which contain a magnetic field must take into account that the corresponding universes are necessarily anisotropic. A large number of astrophysical observations prove the existence of magnetic fields in galaxies. Galactic magnetic fields which we observe today could be rest of a coherent magnetic field existing in the early Universe, before galaxy formation. Among the anisotropic space-time, Bianchi type-V space seems to be one of the most suitable for testing different cosmological models. The solutions of Einstein equations coupled to a spinor and a scalar field in Bianchi type I space-time have been extensively studied by Saha ,Shikin and Sing [10-13]. Patil et al [14-17] obtained

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SOLUTE-SOLUTE AND SOLUTE-SOLVENT INTERACTIONS OF HYDROXY SUBSTITUTED QUINOXALINE IN CCl_4 SOLVENT AT 297 K

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ABSTRACT

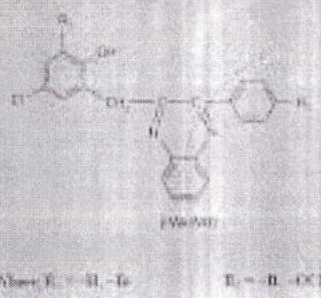
Ultrasonic velocity (v) and density (d) values have been measured in the solvent CCl_4 containing 2-hydroxy substituted quinoxaline using 0.01 M concentration at 297K. From this data, acoustical parameters such as adiabatic compressibility (β_s), apparent molar compressibility (ϕ_k) and relative association (R_A) were determined. In this investigation, the comparative study of effect of solvent and effect of substituents in the solute are studied on molecular interaction of the matter.

Keywords: Substituted quinoxaline, adiabatic compressibility, apparent molar compressibility, relative association

Introduction

The molecular interacton technique play a great role for the detection of molecular association, complex formation, internal pressure. The interferometric method is the most widely used technique for the measuring of sound velocity with high accuracy. Ultrasonic propagation parameters yield valuable information regarding the behaviour of liquid systems, because intermolecular and intermolecular association, dipolar interactions and related structural changes affect the compressibility of the system which in turn produces corresponding variations in the ultrasonic velocity. Solute-solute and solute-solvent interactions of some organic acids in dioxane-water mixtures[1]. Ultrasonic study of isoxazoline at different concentration in 70% of 1,4-dioxane-water mixture[2]. Ultrasonic interferometric investigations of substituted flavones in aqueous ethanol medium at 301 K[3]. Interactions of 1-butyl-3-methyl imidazolium bromide with isopropyl alcohol binary system spectroscopic and volumetric measurements at T (303.15 and 323.15 K)[4]. Intermolecular interaction studies of binary liquid mixtures using time domain reflectometry at 303 K[5]. Theoretical evaluation and experimental study of ultrasonic velocities in binary liquid mixtures of trichloroethylene with three alcohols at 303.15 K[6]. The ultrasonic velocity and other acoustic parameters can be measured with great accuracy and consequently provides a powerful way to determine intermolecular interactions. Hence in this present investigation attempt is made to understand behaviour of substituted quinoxalines.

2-(2-hydroxy-5-chloro) benzyl-3-(4-methoxy phenyl) quinoxamine (IVa)
2-(2-hydroxy-5-chloro) benzyl-3-phenyl quinoxamine (IVb)
2-(2-hydroxy-3-bromo-5-chloro) benzyl-3-(4-methoxy phenyl) quinoxamine (IVc)
2-(2-hydroxy-3-bromo-5-chloro) benzyl-3-phenyl quinoxamine (IVd)



The above compound of 0.01 M concentration in ethanol studied interferometrically to calculate acoustic parameters velocity (v),

Comp.

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DC Conductivity Study of Cadmium Sulfide Nanoparticles

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Abstract- The dc conductivity of consolidated nanoparticle of CdS has been studied over the temperature range from 303 K to 523 K and the conductivity has been found to be much larger than that of single crystals.

Keywords-CdS, Nanoparticles, DC Conductivity

*****

1.1 INTRODUCTION

Encapsulation of metal atoms and nanosize clusters in organic media lead to formation of materials with the properties, different from ones of bulk substance. Such materials can be used in microelectronics, catalysis, optics, as very sensitive chemical sensors and in other fields of science and industry [1]. The physics of materials in the nano-size regime has been the subject of considerable theoretical and experimental studies during the last decade [2, 3, 4, 5, 6, 7,8, 9, 10, 11] The interest in this topic has mainly arose because of the general expectation and experimental evidence in a few cases that nano-particles may exhibit interesting and technologically important properties which are not possessed by bulk materials [12, 13, 14, 15, 5]. It has already been accepted that small clusters of atoms of metals have intriguing physical and electronic properties, [16, 17] each atom on its own has a well-defined set of electronic states. The N-atoms cluster of non-interacting atoms must have N-fold degeneracy for each electronic energy level. The interatomic electron interactions of the cluster remove this degeneracy and the allowed energy states spread into a band. In the case of small particles, the statistics of the electron-level distribution in addition to the density of energy states is important while, in bulk material, it is concerned only with the density of energy states.

The electronic properties of polycrystalline materials and thin films consisting of small crystallites have been investigated in semiconductor [18, 19, 20, 21, 22]like CdS, the study of electrical conduction in systems consisting of nano-particles is very limited;[23, 24, 25, 26].particularly such studies in bulk samples obtained by consolidating nano-particles of important semiconductors is altogether lacking. It was felt that the study of electrical properties of pellets of nano-particles of semiconductors would be interesting. The results of such studies are expected to reflect the effect of finite size on the electrical conduction of small particles. Quantum size effects on the electronic properties have been investigated by many workers in the case of nanoparticles of CdS [3, 27, and 28].

1.2 Fabrication and Preconditioning OfCdS Pellets

Nano-particles of CdS were prepared by solution growth method. The prepared particles of CdS were washed repeatedly using distilled water. The water in the suspension was then removed by evaporation first and then heating in an oven at about 100°C. Pellets of nano-particles of CdS of diameter $1x10^{-2}$m and thickness 766.5 μm were made by applying a pressure of 4 tonnes/cm^2 in a hand operated hydraulic press at Government Pharmacy College, Amaravati.

1.3 I-V Characteristics of CdS Sample

Resistivity measurements of sample (pellets of CdS) can be calculated by using the formula

$$P = \frac{V}{I} 2\Pi S$$

Where, V = Voltage

I = Current

S = Point Spacing

From this $\sigma = \frac{1}{p}$

Figure 1.3 (a) shows the plot of current vs. applied voltage of CdS nanoparticles at room temperature. Initially

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LRS Bianchi type-I Universe in $F(T)$ Theory of Gravity-II

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Abstract:

In this paper, we have investigated the spatially homogeneous and anisotropic Locally Rotationally Symmetric (LRS) Bianchi type-I universe in F(T) theory of gravity. We have examined some models corresponding to the study of equation of state parameter representing the different phases of the universe. For this, we have considered matter, radiation and dark energy. An attempt has been made to retain Sharif and Rani's (2011) forms of the various quantities. Our results are analogous to the result obtained by Sharif and Rani (2011).

Keywords: *F(T) gravity, LRS Bianchi type-I universe, Equation of State parameter.*

1 Introduction :

The most recent observational data states that our universe is in an accelerated expansion phase and further such expansion is driven by mysterious energy having negative pressure known as Dark Energy (DE). The Supernova Iaexperiment [Perlmutter*et al.* (1997),(1998), (1999), Riess*et al.* (1998)] provides basic stand for the accelerating expansion of the universe. Other observations of anisotropies in the cosmic microwave background (CMB) radiation are studied with the data obtained from WMAP satellite[Bennett *et.al.* (2003)] and large scale structure [Verde *etal.* (2002)]. It is observed that most of the part of universe isoccupied by dark matter and dark energy. The cosmological constant is considered as one of the candidate that is responsible for dark energy. Einstein introduced the concept of dark energy by the introduction of the cosmological constant.

An alternate approachfor the study of the universe has been provided by the modified theories of gravity.Some authors use theidea of the existence of a dark energy while others believe in modification of General Relativity. Interesting alternative to General Relativity is$F(T)$ gravitywhich gathers considerable attention to give good explanation of late time acceleration [Ferraro and Fiorini (2007), Bengochea and Ferraro (2009), Linder (2010)].Without the introduction of any DE component,$F(T)$ gravity can explain the accelerated expansion of the universe [Myrzakulov (2011), Dent *et al.* (2011)]. This model utilizes the Weitzenböck connection, which has only torsion which is responsible for accelerating expansion of the universe [Myrzakulov (2011)]. The $F(T)$ theory of gravityproduces equations of order two in field derivatives [Abbas *et al.* (2015), Nassur*et al.* (2015), Genge*et al.* (2015), Das *et al.* (2015)].

In the presence of anisotropic DE, many authors have studied the Bianchi Type-I (B-I) model. A Bianchi Type-I ΛCDM cosmological model where DE component preserves non-dynamical character, but yield anistropicvaccume pressure has been constructed by Rodringues (2008). Many Researchers worked on this model using various parameters and theories [Bali and Kumawat (2008), Amirhashchi (2011), Yadav and Saha (2012), Adhav(2011a), Adhav(2011b), Adhav (2012), Adhav*at el.* (2011)].

In this paper, we have investigated$F(T)$ models by using LRS B-I space time. The paper has been arranged as follows: In section 2,we have presented some basics of tele-parallel gravity. In section 3, formulation of field equations for LRS B-I has been done. By using EoS parameter, the construction of some $F(T)$ models with different cases of perfect fluid has been examined in section 4. Finally, in section 5, we have summarized and with the conclusion.

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LRS Bianchi Type-I Universe in F(T) Theory of Gravity-III

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Abstract:

We consider F(T) theory of gravity for studying the spatially homogeneous and anisotropic Locally Rotationally Symmetric (LRS) Bianchi type-I universe. We have discussed some F(T) models for different forms of matter in the framework of F(T) theory of gravity. From two different F(T) model we can formulate EoS parameter and investigate the cosmic acceleration. An attempt has been made to retain Sharif and Rani's (2011) forms of the various quantities. Our results are analogous to the results obtained by Sharif and Rani (2011).

Keywords: F(T) gravity, LRS Bianchi type-I universe, EoS parameter.

Introduction:

Various cosmological observations inclusive of the supernova type-Ia experiments [Perlmutter et al. (1997), (1998), (1999)], the cosmic microwave background radiation [Spergel et al. (2003), (2007)] and large scale structure [Tegmark et al. (2004), Eisenstein et al. (2005)] suggested that the universe is experiencing accelerated expansion. A number of alternative models in/and different framework have been proposed to account for this observed late-time accelerated expansion of universe. This acceleration is explained in terms of Dark Energy (DE).

The dynamical nature of DE can originate from a variable cosmological constant, phantom as well as scalar field, tachyon, chaplygin gas and modified gravities [Martinelli and Melchiorri (2009)]. In spite of all observational evidences, the expanding universe is still a challenging issue in modern physics [Yang et al. (2010)]

The simplest candidate of dark energy is the cosmological constant with the equation of state $\omega = -1$ [Weinberg (1989), Sahni and Starobinsky (2000), Peebles and Ratra (2003), Padmanabhan (2003)]. It however, sufferes from two serious theoretical problem, i. e., the cosmological constant problem and the coincidence problem. Thus, some scalar field model, such as quintessence [Wetterich (1988), Ratra and Peebles (1988), Caldwell et al. (1998)] and phantom [Caldwell (2002), Caldwell et al. (2003), Nesseris and Perivolaropoulos (2004), Nojiri and Odinstov (2003), Nojiri et al. (2005), Wu and Yu (2005), (2006), Gannouji et al. (2006), Feng et al. (2010)] are proposed.

One can suggest modifications of the Einstein-Hilbert Lagrangian by assuming different function of the Ricci scalar, known as F(R) theories [Capozziello and Laurentis (2011), Felice and Tsujikawa (2010), Sotiriou and Faraoni (2010), Capozziello and Francavigliav (2008), Nojiri and Odinstov (2007)]. The main problem that with this theory is that the equation of the

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Bianchi Type-I Universe in *f(T)* Theory of Gravity-I

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Abstract:

The homogeneous Bianchi type -I model in the framework of f(T) gravity has been investgated. We have used equation of state parameter, energy density and power law volumetric expansion to obtain the solutions of field equations. Some models have been constructed to examine the behavior of accelerating universe.

Keywords: *Bianchi type I Universe, f(T) theory of gravity, Equation of state parameter, Power law.*

[1] Introduction :

According to many observations and theoretical facts it seems that the universe is in the phase of accelerated expansion (Riess *et al.* 1998; Perlmutter *et al.* 1997, 1998, 1999; Spergel *et al.* 2007). The supernova experiments suggests that the universe was filled with dark energy and dark matter (Carmeli 1996, Bennett et al. 2003, Riess *et al.*2004, Spergel *et al.* 2007). Their presence in the universe is one of the puzzles of theoretical physics and studied with many alternative modified theories of gravity. One of the modified theory of gravity is the *f(R)* theory of gravity which is considered to be the most suitable theory due to its cosmological importance. *F(R)* theory of gravity (Nojiri and Odintsov 2007) gives an clear coalition of early time inflation and late time acceleration.

Another interesting modified theory of gravity is *f(T)* theory of gravity which has recently received considerable attention (Ferraro and Fiorini 2007, 2008; Bengochea and Ferraro 2009) which is based on the idea of "teleparallelism" which uses the Weitzenbock connection that has no curvature but only torsion. It is interesting to note that their equations of motion are always of second order in disparity with GR where the field equations are fourth order equations (Sharif and Shamir 2009; Sharif and Kausar 2010). Bamba *et al.* (2011) discussed different *f(T)* models to investigate the cosmological evolution of EoS parameter for dark energy. Due to spatially homogeneous and anisotropic nature, many authors have studied Bianchi Type-I spacetime in different context. Kumar and singh (2007,2008) investigated the solutions of the field equations by considering B-I universe model. Sharif and Rani (2011) studied the accelerated expansion of the universe by considering Bianchi Type-I universe.

The paper is planned as follows: Section (2) consists of basics of *f(T)* gravity. Section (3) provides the solution of field equations for B-I universe. Section (4) consists of construction of different *f(T)* models. Finally, section (5) comprises with the concluding remarks.

[2] $f(T)$ gravity and its field equations :

The modified teleparallel action for *f(T)* gravity is given by (Bamba *et al.* 2011)

$$I = \frac{1}{16\pi G}\int d^4x e(T + f(T) + L_m) \qquad (1)$$

where $e = \sqrt{-g}$, L_m stands for the matter Lagrangian and $f(T)$ is a general differentiable function of torsion.

The teleparallel Lagrangian density is described by the torsion scalar T, as

$$T = S_\rho{}^{\mu\nu} T^\rho{}_{\mu\nu}. \qquad (2)$$

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Bianchi Type-I Universe in F(T)Theory of Gravity-II

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Abstract:

The anisotropic and homogeneous Bianchi type I models in f(T) theory of gravity have been studied using EoS parameter ω_{DE}, energy density $\rho_{DE}^{(-)}$ and power law volumetric expansion of the universe. Transition between phantom and non-phantom phases for these models is discussed.

Keywords: Bianchi type I Universe, f(T) theory of gravity, Equation of state parameter, Power law.

Introduction :

As suggested by the cosmological observations the current universe is undergoing an accelerated expansion. The indications of this late time accelerated expansion of the universe is provided by observations from supernova type-Ia experiments (Perlmutter et al. 1997, 1998, 1999; Riess et al. 1998, 2004), cosmic microwave background (CMB), anisotropies (Bennett et al. 2003; Spergel et al. 2003, 2007), large scale structure (Hawkins et al. 2003; Tegmark et al. 2004; Cole et al., 2005). It is believed that most of our universe is filled with dark matter and dark energy. By modifying general relativity (GR) many researchers have tried to explore late time acceleration and dark energy.

In general relativity (GR), a fundamental theory of gravity is not suitable for the strong field limit to investigate the characteristics of the universe, whereas it can be very easily demonstrates the weak field. So fundamental theory of gravity needs to be modified to explain the characteristics of strong fields.The improvements in Einstein Hilbert (EH) action are added to arrive at an alternative theory of gravity

In recent years, investigations are done by many authors in different context regarding f(R) gravity. The discussion is done by Bamba et al. (2011) regarding curvature singularity which is appearing in the collapse procedure of a star. Singularity could be avoided by adding R^n term in the viable f(R) gravity model has also been proved. Investigation of plane symmetric solutions in metric f(R) gravity is done by Sharif & Shamir (2010). Harko et al. (2011) developed another modified theory named as f(R,T) gravity which is generalization of f(R) gravity and based upon the coupling of matter and geometry. Here gravitational lagrangian involves an arbitrary function of the scalar curvature R and the trace of the energy momentum tensor T.

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Prediction of Rivaled-Unrivaled Scene in Video Using SCA Algorithm

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Abstract: - *Video scene classification and segmentation are fundamental steps for multimedia retrieval, indexing and browsing. In this paper, a robust scene classification and segmentation approach based on Support Vector Machine (SVM) is presented, which extracts both frame and scene features and analyzes their inter-relations to identify and classify video scenes. This system works on content from a diverse range of genres by allowing sets of features to be combined and compared automatically with comparative use of thresholds. With the temporal behaviors of different scene classes, SVM classifier can effectively classify pre-segmented video clips into one of the predefined scene classes. After identifying scene classes, the scene change boundary can be easily detected. Researchers have actively developed wonderful strategies to wise video processing management, collectively with shot transition detection, key frame extraction, video retrieval, and lots of others methods related to video processing. This paper merely focuses on Rivaled-Unrivaled Scene in Video Using SCA Algorithm which can takes input from the dataset and produce output is the trained algorithm which can accurately classify the input scenes also it generate the scene consequence more accurately with respective to other peer technique.*

Index:- SCA,SVM,SBD

I. INTRODUCTION:-

The rapid growth of multimedia technology has caused an exponential increase of multimedia digital data in recent years. There are an increasing number of audio visual materials available publicly (e.g., broadcast news, dramas, movies, sports video). Opportunities in viewing privately produced videos in public are not uncommon (e.g., YouTube). Explosion in the amount of multimedia data is causing a serious management problem, which needs to be addressed. In video processing, identification of high level semantic concepts has been a hot issue in recent years, further leading to studies such as video classification, summarization and retrieval [7, 13, 14]. Combination of text, audio and image analysis techniques, so-called multimodal processing, has also been investigated widely

Video analysis is a exceedingly research area and currently there is an enormous interest in analysis at various levels of complexity, ranging from optical flow and dynamic texture analysis to high level analysis in terms of actions, activities and localization of particular events in videos. While the target application in this paper is dynamic scene recognition, at the same time this paper contributes a principled, well-founded suite of representations and algorithms with potential to benefit space time analysis at all levels of abstraction.

Classifying scenes (such as mountains, forests, and offices) is not an easy task owing to their variability, ambiguity, and the wide range of illumination and scale conditions that may apply. Two basic strategies can be found in the literature. The first uses low-level features such as colour, texture, power spectrum, etc. These approaches consider the scene as an individual object [16, 17] and are normally used to classify only a small number of scene categories (indoor versus outdoor, city versus landscape etc...). The second strategy uses an intermediate representations before classifying scenes [3, 11, 19], and has been applied to cases where there are a larger number of scene categories. In this paper we introduce a new scene classification algorithm based on a combination of unsupervised Neuro-optimization technique which is constructive for turn out accurate scene result from video

A. SHOT BOUNDARY DETECTION:

Algorithm 1: Shot Frontiers Detection

1: Let **M** (f_i) be the fith frame in video sequence, where **F** $_i$ = 1, 2, ….. , ***Fg*** (*Fg* refer to the whole variety of Video sequence)

2: Segregation of respective frame into blocks with x rows and y columns, and **L** (**m, n, fi**) stands for the block at (m, n) in the fi frame.

3: Evaluate the X^2 histogram matching oddity between the analogous blocks between successive frames in video sequence. **G (m, n, fi) and G (m, n, fi +1)** stand for the histogram of blocks at (m, n) inside the fith and (fi +1)th body respectively. Block's calculation is computed with the following equation:

$$D'(fi, fi+1, m, n,) = \sum_1^{L-1} [G(i,j,fi) - G(i,j,fi+1)]2 \Big/ G(i,j,fi)$$

4: Computing x2 histogram difference between two consecutive frames:

$$D'(fi, fi+1) = \sum_1^x \sum_1^y \text{Wmn } D'(\text{fi}, \text{fi}+1, \text{m}, \text{n})$$

where wij refers to the influence of block at (m, n) ;

5: Computing threshold automatically: computing the mean and standard variance of x2 histogram differentiation over the whole video sequence[7]. The following formulaes are used for Calculating the MD anSTD as follows:

$$MD = \sum_{fi=1}^{fv-1} \frac{D\ (fi, fi+1)}{fv-1}$$

$$STD = \sqrt{\sum_{fi=1}^{fv-1} \frac{(D\ (fi, fi+1) - MD)^2}{fv-1}}$$

6: Shot boundary detection
Let the threshold Td=Mean Deviation +b* STD
if D′ (i,i +1) ≥ T , the fi th frame is the end frame of previous shot, and the f(i +1)th frame is the final frame of subsequently shot.

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Implicit Authentication Approach by Generating Strong Password through Visual Key Cryptography

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Abstract: In this era of digitization where literally everything is available at the tip of the finger. Huge amount of data used to flow day in day out, where users used to work with various applications like internet websites, cloud applications, various data servers, web servers, etc. This paper provide idea about access control or authentication used to be acting as first line of defense for preserving data secrecy and its integrity, so far it is learned that the usual login password based methods are easy to implement and to use as well but it is also observed that they are more subjected to be get attacked therefore to preserve authentication on the basis of simple alphanumeric passwords is a challenging task now a days. Hence new methods which bring more strength for authentication and access control are so very expected and desirable.

Keywords: *Strong password, Image pool, access control, authentication, Image Fusion, Visual Key Cryptography*

1. Introduction

Before visiting various innovative schemes of generating strong password, let's observe the crucial parameters which will determine and demonstrate the effectiveness of a password. There are various factors available which determines the strength of password. The first one is how long the password is in length? If it is too short then it may be easily guessed. Second parameter is doing the password generated in a sequence or they are created randomly. if the password generation is in sequence then once the attacker gets acquainted with the pattern of password generation then it becomes extremely simple for him to crack the password and if it is randomly generated then user must remember it and recollect it as an when required.

The third factor may be considered as how passwords are stored and used. Let us consider that a strong set of passwords are generated but if those are not stored at proper place with certain degree of security then all those passwords may be hacked or leaked, which will cause threat to information security. sometimes the utilization of the password is also becoming case of worry, because if the passwords is too strong that means it may have big length and combination of various alphanumeric characters then it becomes difficult for users to recall and recollect it for using in some application. Therefore, all the above parameters must be kept in mind while designing strong password. Work has to be done by considering above parameters so that we will present a strong password generation model which will provide enough strength and must be recollect and recall wherever and whenever required. This requires a comprehensive study of various security issues which are related to access control and authentication. While creating passwords usually users used to make various mistakes which will ultimately resemble in generation of weak password.

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Research Article

A Generic Approach towards PyTorch and Its Data Structure Tensor through Deep Learning

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I N F O

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A B S T R A C T

PyTorch is a library for python programs that simplifies building deep learning projects. It emphasizes flexibility and allows deep learning model to express in idiomatic python. This adoptability and ease of use found early adopters in the research society, and in the years since the library released it has grown into one of the most prominent deep learning tools for broad range of application. This paper expresses the knowledge about the core data structure use by pytorch i.e. Tensor.It is a multidimensional array that has many resemblances with Numpy array. Tensor accelerates mathematical operations and Pytorch has packages for distributed training and extensive library of deep learning function.

Keywords: Deep Learning, Pytorch, Tensor

Introduction

PyTorch is an exposed source machine learning reference library for Python and is entirely based on Torch. It is principallyutilized in applications likenormal language processing. PyTorch is established by Facebook's artificial-intelligence exploration group with Uber's "Pyro" software for the impression of in-built probabilistic programming.

Initially, PyTorch was established by Hugh Perkins as a Python wrapper for the LusJIT grounded on Torch framework. There are twofold PyTorch variations. PyTorch reforms and apply Torch in Python though sharing the similar core C libraries for the backend code. PyTorch engineersmodified this back-end code to run Python proficiently. PyTorch is recognized for having three levels of abstraction as given below:

Tensor – Imperious n-dimensional array which runs on GPU.
Variable – Node in computational graph. This supplies data and gradient.

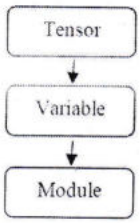


Figure 1.Pytorch Levels of Abstraction

Module – Neural network layer which will accumulate state or learnable weights.

Tensor

The originality that this article shows the performance valuation of PyTorch library, the usage of GPU and CPU use rate as assessment metrics and the usage of arithmetical tests for legalizing the attained data during the experimentation. As a result, the PyTorch library offered a greater performancewhen likened with TensorFlow library, over data analysis, it was confirmed that during execution using

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BIG DATA ANALYTICS PLATFORMS: A SURVEY

Authored by

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Journal of Software Engineering Tools & Technology Trends:

An Enhanced Application Oriented Predictive Analytic using Optimal Deep Learning Model

Vaishali Mate Bhagat, V.U. Deorankar

Abstract

In order to presents better Predictiveanalytic models of different data using various machine learning algorithms. The data prediction is developed on various applications. These applications are facing many challenges while collecting data and data selection etc. The proposed prediction model involves several phases like (a) Data acquisition, (b) Data cleaning, (c) Data normalization, (d) Optimal Feature selection, and (e) Prediction. The optimal feature selection will be accomplished by a new variant of meta-heuristic algorithm like Self Adaptive-Spider Monkey Optimization (SA-SMO) [26]. The optimally selected features will be subjected to an improved deep learning algorithm termed as Recurrent Neural Network (RNN).

Keywords:Big data, Self Adaptive-Spider Monkey Optimization (SA-SMO), Recurrent Neural Network (RNN).

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To Examine the Effect of Inventory Dependent Demand and Time Dependent Holding Cost on Inventory

Pankaj S. Ardak, Atul B. Borade

Abstract: ***Inventory models are effectively used as control tool in most of the inventory control tools. The current study deals with the inventory production model for non momentary deteriorating items. To developed the mathematical model holding cost is considered as time and demand dependent. The items does not start to deteriorate as soon as it enters into the stock. During stock buildup time demand is assumed to be inventory dependent. Optimum solution has been find out by using differential calculus. Results indicate that total inventory has a major influence of inventory consumption parameter.***

KEYWORDS: ***EPQ, holding cost , Inventory and time dependent consumption rate.***

I. INTRODUCTION

Inventory systems has been studied by many of the researchers by considering different assumptions. Buying capacity of customer increases by the large stock present in the store. Deterioration is common in perishable items like food, milk, meat and flowers. To maintain the quality of such items need special storing arrangement which cause rise in holding cost. As such items deteriorates with time in such condition holding cost vary with time. Ardak *et. al.* (2017) developed EPQ model for perishable items which required special storing arrangements.[1,2&3] Items with defect has been analysed without considering inventory carrying cost of imperfect items to developed an EPQ model. [4]. In actual production process the quality of the product depends upon various factors. This can affect the quality of the product hence it is not possible that always good quality items will get produced[5]. In perishable items deterioration start with time. The inventory model with partial backloging has been studied for constant demand.[6]. Rosenblatt and Lee studied inventory model for imperfect production process.[7]. The items deteriorate at higher rate when process change its state., [8]. The total cost is effected by the demand and quality loss function [9]. The optimal production run time get affected by cost of rework, scrap and rate of defective items[10]. Demand was dependent on stock, cusomer and credit policy [11,12]. Gede considered stochastic machine unavailability and price- dependent demand to analysed production inventory model[13]. The influence of demand and cost on EPQ has been analysed by Jinn[14]. Set up cost and process quality had a important role in production inventory model [15].

With time perishable items deteriorates, hence in the present study holding cost is considered as time dependent. During stock buildup time demand is assumed to be inventory dependent. Several sections of the paper is divided as following . Mathematical model formulation is in third section.. The numerical and sensitivity analysis had been discussed in last.

The Present model has been developed by considering following Assumptions:-

1. Constant production rate wich is assumed to be greater than Demand.
2. During stock buildup time demand is inventory dependent

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58 | 134 | 309

Review of Optimum Design Approach of Switched Reluctance Motor Used for Electric Vehicle

Deepak A. Shahakar

Ph.D Scholar

Abstract— *Switched reluctance Moto (SRM) has become one of the best choices for electric vehicle drive because it exhibits prominent advantages over other kinds of electric drive system. Nowadays, switched reluctance machines (SRM) are gaining interest in the scientific community due to the advantages they offer. The SRM offers an overall efficiency similar to an induction motor of the same rating, since the friction and windage losses are comparable. Many researchers have been done on SRMs, their related systems and challenges. This paper reviews the SRM structures, their advantages and disadvantages. Various SRM topologies are studied and their merits and limits are given. Additionally, the most common control strategies for SRM drives are categorized, which is followed by a summary of the researches on challenges in torque and vibration reduction.*

Keywords— *Switched reluctance machine, direct and indirect control, torque ripple, vibration reduction*

I. INTRODUCTION

The climate changes over the last few decades and the shortage of natural resources lead to introduction of the concept of sustainable development which aims to meet the actual human needs while preserving the environment such that the needs of future generations can be met. In terms of preventing global warming and conserving natural resources, vehicles are playing a critical role [12]. To reduce the greenhouse gases produced by automotive vehicles, fuel efficiency must be improved while cleaning exhausts gases as well as ensuring safety. World are making appeals to the manufacturers and researchers to be aware of the need for development of electric vehicles. The challenge is high due to ever increasing demand for mobility and transport of people and goods, in urban and rural regions. The principal task is to replace the fossil energy dependency and its environmental impact, with primary energy sources that are renewable, secure, sufficient, and environmentally compatible [12].

The paradigm shift in the auto industry, towards more energy efficient, more reliable and smarter vehicles [13] led to the development of electrified vehicles. The more electric vehicles (MEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs) are entering in the class of electrified vehicles. As for the energy, it can be drawn from multiple sources, such as: chemical batteries, fuel cells (FCs) or ultra-capacitors.

The key component of the EV is the electric motor and, therefore, its choice is very important. Many types of electric motors have been analyzed during last decades and evaluated for EVs. Switched reluctance motors (SRM) have some advantages in comparison with other electric motors due to their simple structure, flexibility of control, high efficiency, lower cost and robustness to run under failure conditions. The machine rotor does not have any windings or permanent magnets, being suitable for very high speed drive applications [2], [3]. The switched reluctance motors drives (SRDs) need more advanced control technology than DC and AC motors drives. High torque ripple, high noise and vibrations are the most important drawbacks of the SRM [1].

In order to produce maximum torque and reduce the torque ripple, many investigations have been done to design the SRM effectively, which needs the determination of a set of geometrical parameters. The influences of these geometrical parameters were also the topic of many investigations.

This paper is organized as follows. Section II describes the principles of of a SRM, including the SRD systems and its advantages and limitations. Section III presents the conventional and advanced SRM structures. Section IV introduces the common control strategies. Challenges to overcome SRM limitations are presented in Section V. Conclusions are given in Section VI.

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Evaluating Available Transmission Capability using PTDF and Generator Participation Factor

Pritee.R.Rane, Nitin.D.Ghawghawe

Abstract: ***Congestion management in restructured power system is a major technical challenge for the power system engineers. For a congestion free power market , Available transfer capability(ATC) is to be enhanced. ATC is a measure of remaining MW transaction that can be carried out without violating the transmission limits. In deregulated market , change in load can be met by more than one generator of the system generator participation factor is a measure of amount of power contributed by the generator to satisfy the load.This paper proposes that in simultaneous power transaction generator participation factor can decide the ATC of the network and can also change the maximum amount of load sustained by the bus before causing congestion of the network For this coding is done in MATLB and results are verified on Power world Simulator software.***

Index terms— Deregulation, congestion, power transfer distribution factor, Available transfer capability, Generator participation factor

I.INTRODUCTION

Electric power utilities, throughout the world, are currently undergoing major restructuring process and are adopting the deregulated market operation[1]. The restructured markets normally employ either pool trading that involves bidding in the open market or bilateral/multilateral trading directly between seller(s) and buyer(s) or a combination of the both Managing dispatch in an open access environment is a new challenge facing independent transmission system operators who are mandated to provide a level playing field for all transmission uses. Two issues are especially important viz, use of transmission system charges and congestion management[2-3].

objective of deregulation of power system is to provide electrical power to consumers, which will be qualitative, quantitative and economic. However this objective could be encountered by the network congestion. Effective design and controlling of power system network can avoid it. This requires determining the sensitivity of power flow for the changes in power at a bus [4] Enhancing the transfer capability of existing transmission system under steady state as well as improving system security under dynamic contingencies has become need of a new era[5]

IIAvailable transfer capability(ATC)

Definition- According to NERC Report [6] Available Transfer capability (ATC) is a measure of transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses

ATC = TTC-TRM-{ETC + CBM} (1)

Where TTC- Total Transfer Capability
TRM-Transmission Reliability Margin
ETC-Existing Transmission Commitments
CBM-Capacity Benefit Margin

The versatile nature of load needs ATC to be updated continuously.ATC gives a measure how far the system is from the congestion [7].The main constraints for transaction of power are the thermal limit , the voltage limit and steady state limit.[8]The minimum out of these three i.e the thermal limit is considered for ATC calculation.Controlling,further planning and future planning of transmission infrastructure is dependent on ATC. Many researchers has come forward with various mathematical models to evaluate ATC of network.

II. POWER TRANSFER DISTRIBUTION FACTOR FOR ATC CALCULATION

Power transfer distribution factor (PTDF) method is used by many utilities for determination of ATC [9-10] .The change in load is met by various generators of the system.As the system is interconnected all transmission lines are sensitive to load change. The coefficient of the linear relationship between the amount of a transaction and the flow on a line is called the PTDF. When DC power flow is considered and ATC is calculated using PTDF method [11],it provides fast calculation but with less accuracy The change in line flow associated with a new transaction is then ,

$$\Delta P_{ij}^{New} = PTDF_{ij,mn} P_{mn}^{New} \quad (2)$$

Where i and j are buses at the ends of the line being monitored,

m and n are "from" and "to" zone numbers for the proposed new transaction,

P_{mn}^{New} is new transaction in MW amount.

$$P_{mn,ij}^{Max} \le \frac{P_{ij}^{Max} - P_{ij}^{0}}{PTDF_{ij,mn}} \quad (3)$$

$P_{mn,ij}^{Max}$ is the maximum allowable transaction amount from zone m to zone n.

ATC of the network is constrained by the minimum of the allowable transaction over all lines.

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has participated in online National Conference on "Technical Challenges & Innovation in Electrical Engineering -2020 (NCTCIEE-2020)" organized by Department of Electrical Engineering on dated 11th May 2020.

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International Journal of Future Generation Communication and Networking
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Optimal Power Flow for Hybrid HVDC-AC Transmission System: A Genetic Algorithm Approach

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Abstract

One of the most important requirements in power system operation, control and planning in energy management system (EMS) of modern power system control centers is optimal power flow (OPF). It is characterized as a difficult optimization problem and involves the optimization of an objective function, For example, minimization of total generation cost, and minimization of total loss in transmission networks, subject to a set of equality and inequality constraints such as generation and load balance, bus voltage limits, power flow equations, and active and reactive power limits.
In recent years, the incorporation of High Voltage Direct Current (HVDC) link in an

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Mitigation of Inrush Current in Three Phase Power Transformer by Prefluxing Technique

Pradeep J.Kotak, P. S. Verma, Atul D. Tekade, S. B. Warkad

Abstract: *Transformers are major component for electrical energy transfer in power system. Sta¬bility and security of the transformer protection are important to system operation. At the time of transformer energization, a high current will be drawn by the transformer. The mentioned current is called transient inrush current and it may rise to ten times the nominal full load current of transformer during operation. Energization transients can produce me-chanical stress to the transformer, cause protection system malfunction and it often affects the power system quality and may disrupt the operation of sensitive electrical loads such as computers and medical equipment connected to the system. Re¬duction and the way to control of energization transient currents have become im-portant concerns to the power industry for engineers. One of the methods to reduce inrush current is use of point on wave switching at the time transformer is initially connected to supply. It is called controlled switching or point-on-wave switching. In the point on wave switching, the energization of three phases is controlled ac-cording to the residual flux which remains in the transformer. Conven¬tionally, controlled switching or point on wave switching was the method being used to counter this problem, but this method required the knowledge of residual fluxes of transformer before energization which is quite tedious to get. So a technique has been pro-posed to mitigate inrush current in three phase transformer, by a process called pre-fluxing. After setting the in-itial fluxes of transformer it is energized by conventional controlled switching. A system of power transformer of specified rating is simulated in MATLAB simulink and results were obtained. This Paper describes the mod-eling of inrush current of 3- phase, 300 MVA, 11/400 KV, 50 Hz transformer, and mitigation of inrush current with both techniques using point on wave switching and prefluxing. The simulation is done in MATLAB..*

Keywords *: Filter, Harmonics, Inrush current, MATLAB, Point-on-wave switching, prefluxing*

I. INTRODUCTION

Transformer is a static device which transforms electrical energy from one circuit to another without any direct electrical connection and with the help of mutual induction between to windings. It transforms power from one circuit to another without changing its frequency but may be in different voltage level. A transformer is a static electrical device that transfers energy by inductive coupling between its winding circuits. A varying current in the primary winding creates a varying magnetic flux in the transformer's core and thus a varying magnetic flux in the secondary winding. This varying magnetic flux induces a varying electromotive force (emf) or voltage in the secondary winding. Transformer plays vital role in the reliable operation of power system. Reliability means continuity of supply. The demand for a reliable supply of energy has increased considerably requiring nearly a no-fault operation of power systems. A transformer is a rather large and expensive unit therefore, in a competitive and fairly low margin market, utilities tend to postpone as much as possible the replacement of aged units. This inconveniently reduces the network reliability.

A transformer breakdown could have consequences on the rest of the power system and in addition the repair time of transformers is long. The costs associated with repairing a damaged transformer is very high. The number of transient situations is believed to increase in a distributed power generation regime. A wind farm will be extensively exposed both to switching and lightning over-stresses. The understanding and prediction of these situations can result in better protection schemes and integration of power transformers in the network. Hazardous operations like inrush currents, overvoltage, internal resonances, and lightning impulse stresses manifest as electromagnetic transients and are usually difficult to accurately predict. Also, outages of transformers can interrupt the power supply for considerable durations. Inrush currents are instantaneous currents flowing in the transformer primary circuit when it is energized. They are normally of short duration, usually of the order of several seconds

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Induction Motor Faults Classification using Parks-Hilbert Transforms Approach and ANN Networks

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Abstract

Due to the cardinal features like robustness, efficient load handling, reliability etc the Induction Motor is foremost used for number of applications. While working environmental conditions, mechanical stresses etc cause fault like bearing fault, inter-turn short circuit fault, rotor bar crack. These faults should be eliminated and categorized as early as possible to avoid harm. There are list of techniques are accessible for the fault catalogue of I.M. The Artificial Neural Network is the best solution over other existing techniques. The motor line currents recorded under varied faults conditions were analyzed using ANN.

Keywords: *I.M., Park's-Hilbert Transform, FFT, Statistical Parameters, ANN (networks)*

1. Introduction

Nowadays, Induction Motor has their wide usage in industrial and commercial sectors. But the induction motor undergoes several drawbacks while working due to mechanical stresses and environmental conditions. Failure survey have reported that the percentage of failure by components of induction motor as, [3]

(1) Stator related-38%

(2) Rotor related-10%

(3) Bearing Related-40%

(4) Other-12%

These faults conditions should be detected classified and clarified as much as possible. The fault should be clear in its minor state for maintaining its reliability, minimizing losses and expenses, etc. The fault may cause unexpected and sudden breakdown of motors.

There are ample techniques and methods of classification of faults have been developed now. But ANN is accepted as one of the best working techniques. The obtained result gives the crystal clear idea about its suitability of proposed techniques to acquire 100% accuracy for multiple fault categorizations.

The foremost behoof of ANN is that it derives the online cognition libidinous the kind and size of culpability outside possessing very daedal mathematical models. If the element of Neural Network flops,it can wage without whichsover exigency by theirparallel disposition.

2. Park's-Hilbert Transformation

2.1 Park's Transform:

Acquisition of three phase currents(I_A, I_B, I_C) at different loading and faulty conditions. As a function of mains phase variables (I_A, I_B, I_C) the motor current park's vector components (I_D, I_Q) are,[1] [5] [6]

$$I_D = \left(\frac{\sqrt{2}}{\sqrt{3}}\right) I_A - \left(\frac{1}{\sqrt{6}}\right) I_B - \left(\frac{1}{\sqrt{6}}\right) I_C \text{-------- [1]}$$

$$I_Q = \left(\frac{1}{\sqrt{2}}\right) I_B - \left(\frac{1}{\sqrt{2}}\right) I_C \text{--}$$

----------[2]

The Park's transform is a simple and efficient diagnosis method. It is based on the spectral analysis of Park's Square Vector (PSV) that is computed as,

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Comparative Study of Different Methods For Improvement of Power System Stability

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Abstract:
Power system stability plays an important role in power system problems. There are various problems occurs in power system because of instability. The main focus of this paper is related with the stability studies of the power system . There are various parameters which hammers stability of power system like rotor instability , voltage instability , frequency instability etc. So it is necessary to improve stability of power system for reliable and secure operation. There are different techniques like classical and advanced to improve the stability of power system. In this paper we have focused on improvement of voltage stability using classical and advanced techniques. And hence by giving comparative analysis of these methods conclusion is drawn.
Keywords: *Power system Stability, PSO , LPP , Advanced PSO*

I. Introduction:

A. Electric Power System

We are in need of energy for our industrial, commercial and day to day activities and we use energy in different forms. Out of all the forms of energy, electrical energy is the most important one as it can be generated efficiently, transmitted easilyand utilized ultimately at reasonable cost. The ease of transmission of electric energy give rise to a possibility of generating electric energy in bulk at centralized place and transmit it over a long distance to be used ultimately by large number of users. [1] [2]

If it is necessary to generate in a small scale, just to light a house we can perhaps intuitively make the connections needed for a reasonably reliable and efficient operation. But it is necessary to generate in bulk then intuition cannot be used. .Itis important to followsystematic methodology to have reliable, efficient,economic and safe use of electric energy. The components used for generation, transmission and large scale distribution of electric energy form a
huge complex system termed as " Electric Power System". [1]

B.Power System Control

The role of power system control is to preserve system integrity and restore the normal operation subjected to a small or large disturbance. In other word , Power system control means maintaining the desire performance and stabilizing of the system following a disturbance, such as short circuit or loss of generation or load.[2] Energy is consumed in the electrical form but israther converted to other forms such as heat, light, and mechanical energy. The advantage of electrical form is that it can be transported and controlled easily and with high degree of efficiency and reliability. [2] Following are the fundamental requirement of properly designed and operated power. [2]

i. The system must be able to meet the continually changing load demand for active and reactive power.
ii. The system should supply energy at minimum cost and with minimum ecological impact.
iii. The quality of power supply must meet certain minimum standa4rds with regard to constancy of frequency, constancy of voltage and level of reliability

Hence 'Power system stability' is the ability of an electric power system, to remain in synchronism (come back to its normal operating conditions) under any type of disturbances like small , gradual and large disturbances. [2]

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Comparative Analysis of Simplex, Dual Simplex and Graphical Method of Optimization Technique Establishing Implementation of Optimization Tools In MATLAB.

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Abstract

Optimization technique plays an important role in real world problems. There are various Optimization technique consist of classical optimization method and advanced optimization methods which are very useful in number of application in each and every field to find the exact optimum solutions. The main focus of this work is based on the effect of optimization tools approach on simplex , dual simplex and graphical method of linear programming of optimization technique and comparison of tabular methods to find the best solution for same problem. Linear programming plays an important role in our lives. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration ..

By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution and also from the tabular calculations , we can find the best tabular optimization method to find the optimum solution.

Keywords: *simplex method , Dual simplex method , graphical method , optimization tools, optimal solution,*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical engineering, civil engineering, mechanical engineering etc as well as non engineering applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial , research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

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Spotting of Distribution Voltage Quality Annoyance in Distribution System

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Abstract

The most concerning issue for power engineers is power quality terms. Dynamic voltage restorer (DVR) is power quality enhancer and infuses voltage to distribution feeder in series to mitigate sag/swell. The study of detection and mitigation of voltage sag/swell is presented in this paper. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). This paper investigates the DVR controlled with SRF control methodology to compensate for sag/swell in different phase voltages is tested and Simulation analysis is carried out using MATLAB\SIMULINK .

Keywords: *Power quality, Voltage disturbances, Dynamic Voltage Restorer (DVR), Synchronous Reference Frame Theory (SRF).*

1. Introduction

Quality in power delivered to the load is termed as power quality. Unstressed load devices by upholding power factor, voltage and frequency gives good load performance. Upholding the power system parameters can eventually reduce system losses thus increasing the span of load devices. Issues regarding the power quality and their identification are addressed in this paper.

Voltage sag, voltage swell, differs in the shape of the curve alternative to sinusoidal influence the performance of power system. Sags and swells in voltage waveform are general in production units. This phenomenon yields loss to the production. Solution to this issue is to instrument the system to tolerate sags/swells using storage systems or intelligent management controls.

The study of detection and mitigation of sag/swell in voltage is presented. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). The realization of dynamic voltage restorer controlled by SRF methodology to lessen the voltage annoyance in different phase voltages is tested.

2. POWER SYSTEM NETWORK

The system of power network with sag/swell generation is shown in figure 1. Long duration and short duration disturbance in power network are very common in occurrence. If the disturbance duration is more than one minute it is termed as long duration and else short duration fault. Sag in voltage occurs with abrupt switching of heavy loads and swell occurs due to sudden switching of capacitor bank or abrupt load discharge.

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Integration of Wind Connection Low Frequency AC Transmission System using Back to Back Converters

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Abstract

The demand for worldwide electricity is projected to keep growing. As we know that resources are very limited, it is very important to save them for future generation in many aspects. One such limited element is land. We have 1/3 rd of earth is with the land and rest is covered with water. Since we have shortage of space everything cannot be done on the land itself. Now a day in developing countries power is the main demand and generation of power is done in very large scale which needs more land and equipment which leads to high capital investment. Keeping these points in view off shore wind power generation is proposed. By using off shore wind we can generate bulk amount of power generation. But it is facing high economical and technical challenges. The budget for offshore wind power has usually been higher than that of onshore wind generation, but costs have been decreasing quickly in recent years and in Europe has been price economical with conventional power sources since 2017.

The common off shore wind farms are grid connected via High Voltage AC (HVAC) transmission, the present researchers and industry experts are concentrating on cost effective transmission alternatives to present technologies. The future of transmission system focuses on finding the alternatives to transmit the maximum power at less cost. A novel Low Frequency AC (LFAC) Transmission System has proposed for transmission of bulk power over long distance (>100kms) by using an intermediate frequency with low investment cost.

This manuscript presents the one of the best approach of Low frequency AC transmission system technology interface the wind. The Low Frequency AC transmission system uses a 1/3rdof nominal frequency (20Hz/16.666Hz) than regular frequency (60Hz/50Hz) of main grids. The LFAC transmission was designed with Back-2-BackVSCs are selected as the most appropriate choice due to the technical benefits of Voltage Source Converters (VSC). An analysis to limit the optimum frequency for LFAC determines that between 100 km and 200 km the frequency lies in the range 20-16.67 Hz, showing the potential for LFAC.

The design, analysis and voltage control of the B2B converter based offshore wind connected LFAC system is modeled in Simscapein MATLAB.

Keywords: *We Voltage Source Converters (VSC), Line Commutated Converters (LCC),High Voltage Alternating Current (HVAC), High Voltage Direct Current (HVDC), Low Frequency AC Transmission System (LFAC) and Back to Back Converter (BtB).*

1. Introduction

Now a day it is very important to conserve environment as there are many consequences that have lead to the global warming. The demand of every individual in this raising population is rising every day. The demand is being increased from each individual to a country level. We need a large power to meet the demand of every country may be developing or developed. It is also very important to conserve fuel and decrease the emission of harmful gases. If we keep on using the resources in the same way there

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Impact Assessment of Generation and Transmission Investment on Spot Prices in Electricity Markets: A Study of MSETCL, India

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Abstract

Electric utilities worldwide have experienced a period of rapid changes especially in the market structure and regulatory policies. Under it, electric transport pricing can shape the level of competition in the electricity market. Spot pricing in this context is one of the effective schemes to achieve transmission pricing objectives.

The enactment of the Electricity Act 2003 has opened the door for wholesale electricity market in the Indian electricity sector. The success of Transmission Open Access (TOA) regulation in India needs to reconfirm the required infrastructure and appropriate pricing policy to promote competition in this sector. This paper aims at (1) the transmission pricing issues in general and Spot pricing in particular, (2) optimal Spot price formulation, (3) implementation of Spot pricing methodology over IEEE-30 Bus and real transmission network of Maharashtra State Electricity Transmission Company Limited (MSETCL) and (4) to assess the impact of generation and transmission investment on the Spot prices. Paper concludes that Spot pricing is easy to implement over real network situation and effective in achieving transmission pricing objectives.

Index Terms *– Open access, Electricity market, Optimal power flow, Spot pricing.*

I. INTRODUCTION

Electric utilities in several developed and developing countries have experienced a period of rapid changes especially in market structure and regulatory policies [11]. Under competitive electricity market, transmission has economies of scale, making this sector a natural monopoly that has to be regulated. Today the trend of electricity market is heading towards *Transmission Open Access (TOA)* whereby transmission providers will be required to offer the basic transmission service (i.e. operational and/or ancillary services) and transmission pricing [8]. To bring efficient use of the transmission grid and generation resources by providing correct economic signals, a Spot price theory for the restructured electric power system was developed [11].

The enactment of the Electricity Act (EA) 2003 has paved the way for undertaking comprehensive market reforms in the Indian electricity sector. The recently notified TOA, National Tariff Policy by Ministry of Power, Government of India seeks to achieve the objectives (1) to ensure optimal development of the transmission network, (2) to promote

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Effect of Optimization Tool Approach on Linear Programming Methods to Optimize Mathematical Manipulation

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Abstract: *The main target of this work is based on the effect of optimization tools on linear programming methods to optimize the mathematical calculations. Linear programming plays an important role in our lives. There are various methods to solve LPP, such as simplex, dual-simplex, Big-M, two phase and graphical method. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration. The objective function of linear programming problem (LPP) involves in the maximization and minimization problem with the set of linear equalities and inequalities constraints. By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution.*

Keywords: *Linear programming problem, optimization tools, optimal solution, Tabular Method.*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical

engineering, civil engineering, mechanical engineering etc as well as non engineering. applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial, research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

II. Algorithms Used

A. Simplex method

Simplex method is the most accurate method to solve the Linear Programming problem. It can be modified according to the nature of problem. It can be easily implemented on computers. It overcomes the limitations of graphical method. It can be solved with lesser number of constraints and work with less than or greater than or equal to constraints. It uses a tabular form of representing the numbers.

Algorithm:

1. The problem should be of maximization type, if it is minimization then convert it into maximization by multiplying -1 to the objective function.

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MANTECH Publications

Journal of Electrical Power System Engineering and Technology
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Mobile Biometric Attendance System

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Abstract

Attendance system plays vital role in any institution, schools and colleges where the record of their regularity is noted. In This concepts we have replace the traditional attendance system into moving automated biometric attendance system where teachers don't have to call students name for their attendance. A moving robot will come to student's place where he has to just place their finger on fingerprint Scanner. This concept will save time while taking attendance in manual system. There will be transparency and also authentication will be fully based on the students biometric so no issue of fake attendance. This will increase overall classroom attendance as biometric of students cannot be mismatched.

Keywords: *Raspberry pi, automated attendance, line following robot, Database*

INTRODUCTION

Nowadays digitalization is growing a trend in every sector. Digital India concept is also in trending for development. So one step forward towards digitalization, we are trying to replace our manual attendance system by Mobile Biometric Attendance System. Attendance is a concept that exists in different places like institutions, organizations, hospitals etc. Traditional attendance paper based attendance systems are often lead to unnecessary time spent by teachers. Many times teachers pass the attendance sheet students to mark their attendance but this leads to issue of fake attendance where the students tend to answer or sign for their friends who are not present for that day.

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Available Transfer Capability Enhancement by Generator Participation Factor

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Abstract. Restructing has replaced the vertically integrated power system .Along with the benefits deregulation has brought some technical challenges like congestion. Available transfer capability (ATC) is a measure of how much MW power can be transmitted further over the already committed use, without violating the security constrains. Fast and accurate calculation of ATC is necessary for power transaction. Generator Participation Factor (GPF) is a measure of change in generator power as response to change in load demand .This paper focuses on calculation and enhancement of ATC using (GPF). Results are obtained on IEEE 6 bus system and validated on power world simulator.

Keywords: Restructuring, congestion , available transfer capability, power transfer distribution factor, generator participation factor.

1. Introduction:

In last few decades power system is getting restructured. It is replacing the monopoly of single entity with number of market participants [1-3].Given the choice; consumer can demand power from any generating company and thus creating competition. Privatization is only at generation side while transmission system still remains the same. While trading electricity one or more transmission line may be loaded to its maximum limit and thereby leading to network congestion. Congestion management is a major challenge in deregulated system [4].In order to avail all benefits as expected from restructured environment; sufficient trans-mission capability should be provided to satisfy the demand of increasing power transactions. Prior to any power transaction feasibility of capability of transmission network is to be determined first. Exact evaluation of transfer capability is very important for maximum use of transmission network.

It can be detected by evaluation of Available Transfer Capability (ATC) of the network. According to the North American Electric Reliability Council (NERC) ATC is the transfer capability remaining between two points above and beyond already committed uses [5]. The ATC value between two points is

$$ATC = TTC - TRM\{ETC + CBM\} \quad (1)$$

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Role of Electrical Power in Magnetic Maharashtra

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Abstract

The state hopes for investments of almost Rs 10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement, wishing to generate employment opportunities for nearly 35 lakh people in the state. In past couple of years, Maharashtra has achieved a new trajectory in bolstering the state's industrial output. This is evident in multiple reports released by reputed financial bodies that places the state ahead of the rest in Ease of Doing Business, as also statistics such as 50 per cent of infrastructural development of India being clocked in Maharashtra. To achieve the goal of Trillion Dollar economy, role of electrical power is vital or in another words we can say that electrical power is backbone of any industry.

Introduction

Magnetic Maharashtra Convergence Summit 2018 is Maharashtra's first Global Investors Summit and is being regarded as one of the biggest such events, especially on the lines of the 'Make In India' initiative launched by the Prime Minister in 2016 in Mumbai. Magnetic Maharashtra Convergence 2018 was a summit held in Mumbai, India on February 18–20, 2018. The event aimed to attract Investments of Rs.10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement to generate employment opportunities for nearly 35 lakh people in the state and it is being run with the tagline Made For Business.

To achieve this goal the role of Electrical Power in vital in terms to provide power to industries as well as to connect the nation in terms of Electrical Vehicles. The overall impact of the electric vehicle ultimately benefits the people. Compared to gasoline powered vehicles, electric vehicles are considered to be ninety-seven per cent cleaner, producing no tailpipe emissions that can place particulate matter into the air.[2]

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Energy Harvesting Trees

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Abstract

The energy harvesting trees are super eco-friendly synthetic trees will make use of renewable energy from the sun along with wind power, which are an effective clean and environmentally sound medium of gathering solar radiation and wind energy. The artificial trees are implanted with Nanoleaves, a composite of nano-photovoltaic nano-thermovoltaic and nano-piezo sources transforming light, heat and wind energy into eco-friendly electricity. The Nanoleaves transform the whole solar scale converting detectable light, infrared and Ultraviolet in a unification with piezo-electric generators that alter wind energy into electricity giving you efficient, cost efficient and attractive looking solutions, whilst providing the greatest electric power.

INTRODUCTION

Energy harvesting is defined as capturing minute amounts of energy from one ormore of the surrounding energy sources, accumulating them and storing them for later use. Energy harvesting is also called as power harvesting or energy scavenging. In the view point of energy conversion, human beings have already used energy harvesting technology in the form of windmill, watermill, geothermal and solar energy. The energy came from natural sources, called renewable energy, is emerged as future power source due to limited fossil fuel. Since the renewable energy harvesting plants generate kW or MW level power, it is called macro energy harvesting technology.Micro energy harvesting technology is based on mechanical vibration, mechanical stress and strain, thermal energy from furnace, heaters and friction sources, sun light or room light, human body, chemical or biological sources, which can generate mW or μW level power.

Energy harvesting as an alternative technique that has been applied to solved the problem of finite node lifetime and it refers to harnessing of energy from the environment or

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Night Vision Technology

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ABSTRACT-**In fourth industrial revolution, more people are turning to robotics because robots performs most significant role in every field and gives more precise output, which is consistent for different types of tasks. Objective of this study is to build a robotic arm to help the person facing the problem of writing disability; this robotic arm is coupled with a voice recognition system through which the person speaks in to the microphone and robot executes the writing operations automatically. This paper also depicts the essential plan of composing automated arm.**

KEYWORDS: Robotic arm, Arduino Uno, Python, speech recognition.

I. INTRODUCTION

A robotic arm is programmable mechanical device, which can perform simple tasks like pick and place, or more complex tasks diligently. Robotic arms are usually designed to simply the human efforts in the performance of a task. In this context, it will be interesting to devise a robotic arm which can assist a human who has a physical handicap for the purposes of writing. This can be achieved through the process of recognition of speech, which has been studied since 1950, and has progressed both in terms of algorithms and the equipment.

Proposed robotic arm is able to use by the physically handicap person for writing operation effectively. The robotic arm assembly consists of condenser microphone. The condenser microphone senses the spoken word from the person and transfers the weak signals. These signals are mandatory to be amplified. Following this signal conditioning, Analog to Digital Converter (ADC) converts the signals useful to the computer system. The central processing unit compares the input signals with predefined records of precise words and sound levels. As the signal levels of vocal word and stored word are matched, the control word passed to the mechanical assembly. The mechanical assembly consists of ARM2148 processor which controls the mechanism by means of actuating arrangement of three stepper motors. The three stepper motors are rotating along three mutually perpendicular axes. In general, human arm while writing moves in the three directions. In this developed robotic arm also, linear movement of the arm along three different directions is achieved by three stepper motors.

The next section presents the review of literature in two perspectives: (a) different algorithms for speech recognition, and (b) application modes of speech recognition.

II. LITERATURE SURVEY

(A) Speech recognition process through GUI can be categorized into the following categories [1-8]:

[1] **Hidden Markov Model (HMM):** HMM's are used extensively in speech recognition because of their consistency [5].

[2] **Artificial Neural Networks (ANN):** ANNs are similar to Markov Models, and use weights, connection strengths and functions. ANNs have been reported to have a high accuracy [3, 5]. The major challenge in ANNs is to find the weights.

[3] **Dynamic Time Wrapping (DTW):** DTW is an arrangement to compare between two different speaking speeds, and is often used to differentiate between the speaking signals of two different speakers. However, it has been reported that DTW have difficulty [6, 7].

[4] **Vector Quantization (VQ):** VQ is a technique which uses probability distribution functions for the quantization of signals. It has been reported that the VQ method is efficient [4, 8].

[5] **Mel's Frequency Cepstral Coefficient (MFCC):** MFCC is the most commonly used technique in automated voice recognition, since it is the easiest and simplest [6, 8].

(B) Comparative Analysis:

Speech recognition techniques have been adapted viz. using MATLAB, PIC, using GUI and using IoT. These applications are compared in Table 1. It is found that speech recognition IoT system is more accurate as compared to other three systems.

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Performance of Distance Relay inTransmission Line Protection

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Abstract—**The protection of multiterminal transmission lines is a challenging task due to possible infeed or outfeed currents contributed from the taped lines. As a result, the first zone reach of a non-communication-based scheme (e.g., impedance-based distance relays) usually cannot be extended more than a small portion beyond the tap point. This paper presents a various protection technique for multiterminal transmission line.**

Keywords— Multiterminal transmission line, protection.

I. INTRODUCTION

The North American power system consists of thousands of high voltage transmission lines (TL) transmitting electrical power between generators and load centers which represent the foundation of the power system. The majority of transmission line construction is of overhead type and therefore, is easily susceptible to various transient and permanent faults. These faults can lead to damage of the line itself and can cause power system instability. It is of the utmost importance that protective relay systems are capable of clearing all faults within the designed operating time, and have a high degree of dependability and security.

Typically, there are three types of line configurations used within the industry. These line configurations include radial configuration that are (a) one-terminal, (b) two-terminal, and (c) multi-terminal of which three-terminal is possibly the most prominent multi-terminal type. It should be noted that "terminals" in this context, refers to source terminals and not-tapped transformer terminals or stations. The two-terminal line configuration is the most dominant type followed by radial, and the three-terminal lines are the exceptions.

Three-terminal and other multiterminal line construction projects are generally a trade-off of planning economics and protection complexities, and can lead to compromises in reliability. Two-terminal lines with long tap(s) supplying remote load from the main line may display many of the same protection and loadability issues as three-terminal lines. These types of configurations and those with multiple tapped transformer stations (low voltage tie breaker closed) are beyond the scope of this discussion. However, it should be noted that some of the same types of complexities may be experienced with these types of configurations as three-terminal lines. The complexity of protecting these line configurations increases from the relatively simple radial, to the more difficult two-terminal, and to the still more difficult three-terminal. Relaying three-terminal lines has been and continues to be a challenge for protection engineers.

There are a number of factors that influence the decision to configure a transmission line with three terminals, such as economics, constrained lead time, regulatory approvals, right-of-way (RoW) availability, line overloads, and system performance requirements.

- There is an economic benefit in the construction of three terminals because it avoids the expense of all or a portion of a substation and typically reduces the transmission line miles.
- Use of three-terminal lines may be more expeditious in Add-ressing system needs.
- Right-of-way may be limited or not obtainable for new lines and stations.
- Regulatory approvals may be problematic. There may be opposition to the construction of new facilities and the construction of a three-terminal line may reduce the over-all project impact.
- Three-terminal line configuration may mitigate the possibility of transmission line overloads due to single contingency events. However, this is very dependent on system topology.

The differential relaying scheme using a communication link between the TL ends could provide a secure protection for multiterminal TLs [1]–[3]. However, the reliability of such a protection scheme depends upon the reliability of the communication link. Moreover, the measurement infrastructure of the tapping lines could be poor or there could be no communication channel for sending measurements from the far end of the tapping lines [4]. Therefore, a protection algorithm, which is based only on the local information obtained at the relay bus, is greatly useful for the protection of multiterminal TLs. Even when a quite reliable communication-based technique is employed for the protection of a TL, a second relay, which makes the decision only based on the local information, would be helpful to increase the reliability of the protection scheme.

The conventional TL protection schemes (e.g., distance relays) are based on the fundamental frequency components of the fault signals. It is well known that the fundamental frequency components of the local signals do not provide the sufficient information required for discriminating between the internal and external faults for a multiterminal TL. This is due to the fact that the infeed or outfeed currents contributed from the tap points could affect the fault-loop impedance estimated by a distance relay. As a result, the distance relay may under-reach or overreach depending on the transmission system configuration and parameters [5].

The fault-induced high-frequency (HF) transients contain extensive information about the fault by which the fault

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Spot Price Forecasting in a Restructured Electricity Market: An Artificial Neural Network Approach

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Abstract: ***In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability. Market participants use price forecasts to decide their bidding strategies to maximize their profits in the day-ahead market. Generating companies have to make decisions regarding unit commitment. Suppliers and consumers use price forecasts to optimize the proportion of forward market and bilateral contracts in their asset allocations. Facility owners use the long-term price trends to ensure recovery and profitability of their investments in generation, transmission, and distribution. This study demonstrates electricity spot price forecasting in day-ahead electricity market based on Artificial Neural Network (ANN) approach. Recently ANN techniques are emerged as the best technique and suitable for restructured power system problems. This study used Feed-Forward Neural Network (FFNN) and Radial Basis Neural Network to forecast electricity spot prices. The results are computed and compared for standard IEEE-57 Bus system. More accurate price forecasting is obtained using RB neural network based on several statistical errors.***

IndexTerms: Electricity Restructuring, Spot Price, Artificial Neural Network, Forecasting

I. INTRODUCTION

In several decades, worldwide countries have spent substantial resources and efforts on implementing market-oriented restructuring in their electric power sectors. The desired objective under such regime is to achieve a more efficient power system facilitated by competition. A good and sustainable pricing scheme becomes a key issue in order to achieve efficient competition. In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability [1-2]. Market participants need to forecast short-term, mainly day-ahead, prices to maximize their profits in spot markets. These price forecasting facilitates market participants in terms of negotiations of bilateral contracts, hedge against risks of price volatility in spot markets, to ensure return on investment in electricity generation, transmission and distribution.

Today the electric power industry has entered in an increasingly competitive environment under which it becomes more realistic to improve economic efficiency and reliability with affected market forces [3]. Electricity Spot pricing in such an environment has now been emerged as an important mode of energy pricing [4]. Electricity spot prices reveal vital information to the market participants about their bidding and risk assessment strategies and Independent system operators about to perform market dispatch and market decisions through market clearing price under network congestion.

One of the applications of electricity spot pricing in deregulated regime is to accurately predict the electricity prices. Market participants need information about short-term price forecasting i.e. day-ahead to maximize their profits in spot markets, medium term price forecasting to negotiate bilateral contracts so that they can hedge against risks of price volatility in spot market. Generators and transmission owner needs long-term price trends to ensure investments recovery in the facility planning [5]. Also, forecasted prices provide system operators to predict possible exercises of market power and detect gaming behaviors leading to unreasonable prices.

In past decades, several hard computational techniques like time series models, auto regressive and auto regressive integrated moving average (ARIMA) models have been used to forecast electricity prices. Though these techniques are found accurate, but are limited to a large amount of historical information and the computational cost [6]. Recently generalized autoregressive conditional hetero-skedastic (GARCH) model [7-8] and the Wavelet-ARIMA technique have also been proposed. Apart from this, some soft computational techniques based on Artificial Intelligence approach also been proposed to improve the performance of price

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Inventory Management Softwares for Construction Industry: A Review

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ABSTRACT: Inventory is the supply of raw materials, partially finished goods called work-in-progress and finished goods, and organization maintains to meet its operational needs. It represents a sizeable investment and a potential source of waste that needs to be carefully controlled. Inventory is defined as a stock of goods that is maintained by a business in anticipation of some future demand. The quantity to which inventory must fall in order to signal that an order must be placed to replenish an item. The reporting capabilities of the Inventory management software will help on top of the inventory status at any point in time. The tool will keep one prepared, and ready with what is required, well in advance. This paper review various softwares such as Oracle NetSuite ERP, Vyapar - Accounting & Invoicing, Quickbook, Zoho Inventory , Marg Erp 9, Sleek Bill India and Tally ERP 9 which can be use for inventory management in the construction industry.

KEYWORDS: Inventory, software, accounting.

I. INTRODUCTION

The use of software in inventory management can reduce, time required, expenses on management, etc., whereas it increases the efficiency and accuracy of work. Inventory management is all about knowing the status of goods/stock at a given point in time. It is also a way of managing all the products that are in stock - optimizing the overall quality, flexibility, speed, cost and ensuring that the flow of goods is uninterrupted and fluid. This is very important because of the vast amount of data at hand that needs to be tracked and verified. It is therefore important to know a few things that the inventory management software keeps track of, as well as provides answers to what and when required, which include:

- The amount of stock in the warehouse
- The ordering of fresh supplies
- The quantity ordered, including, what was ordered, how much & when
- Storage of stocks
- The quantity of fresh stock received, when, how much and from whom.

Construction site has usually short of manoeuvre space and storage area. Most materials require proper storage and cover up again weather to avoid damages and deterioration. Therefore ordered at the right time, delivered on the right time for use will minimized the holding stock and wastage. The process will gain economy in purchasing, maximizing storing capacity at site, reduce wastage, and shorten the procurement lead time. Failure in managing site inventory will result in cost overrun, delays in project completion and reduce overall project performance. As show in Figure 1.1 the flow chart of the typical site inventory management system. In which not only the physical flow of management to be adhere to, the analysis of material and item is also important. Items and materials being analyzed and keep reasonable stock level will reduce down time during installation. Hence good inventory control has potential to reduce construction costs, reduce project delays, improve productivity, reduce labour working hours and promote time savings. The saving on wastage alone has significance impact on profitability of the project.

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The Introduction of Segro-Plant and Functioning Of Units

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Abstract: - The main objective to writing this paper is to study the new practice towards plastic waste management. This is the new improvise technique of the decomposition of waste material including various plastic such as plastic bags and has become a vital issue. This waste is non-decomposable which can be used as a renewable resource. The waste can be shredded and be differentiating and utilize for various purposes. The waste is collected and uses for production are the main aim of segregation plant.

Key word: Plastic waste management, Recycling, Segregation,Environment.

1. INTRODUCTION

The Segregation is one of the most substantial procedure of using the waste as recyclable or renewal material. The segregation plant is the procedure of using the all kind of waste mainly plastic waste in a proper way by segregation the waste as organic and non-organic. This process of segregation of waste is mainly depends upon its thickness, their grade, their rate of mixing with other components and so on. The report gives ideality about segregation plant. The main aim to distribution of knowledge about this plant and the main role they can play in waste management.

2. The prime components of segregation plant:

1. **Waste Collector:** The waste collector i.e., truck is used to collected all types waste in a proper way such that the waste is differentiate according to the types wet waste or dry waste. Then the waste in taken into the plant.

2. **The Marinator:** The marinator collects the waste from truck and removes unwanted toxic substances from waste and spills it into the decomposition tank where it decomposes with soil.

3. **Magnetic Sorter:** In this process the removal of the ferrous particles are to be done from plastic waste.

4. **The Shredder**: The remaining waste is taken for shredding and the shredding can be done by mechanical or manual means. The waste is properly cultured into various boxes according to their properties and taken to thicker.

5. **The Thicker:** The waste from shredder is taken to the thicker that differentiate the waste according to their size, the grades and chemical composition.

6. **Bucket:** The waste is taken into bucket for washing. Here they wash the waste by high intensity of water jet. There from all the waste are properly taken for screening.

6. **Screen:** The screen is done according to the properties and measured in proper quantity and take into furo.

7. **The Furo:** The waste is taken into for polishing or nourishment in the furo chamber and taken from them to the respective use.

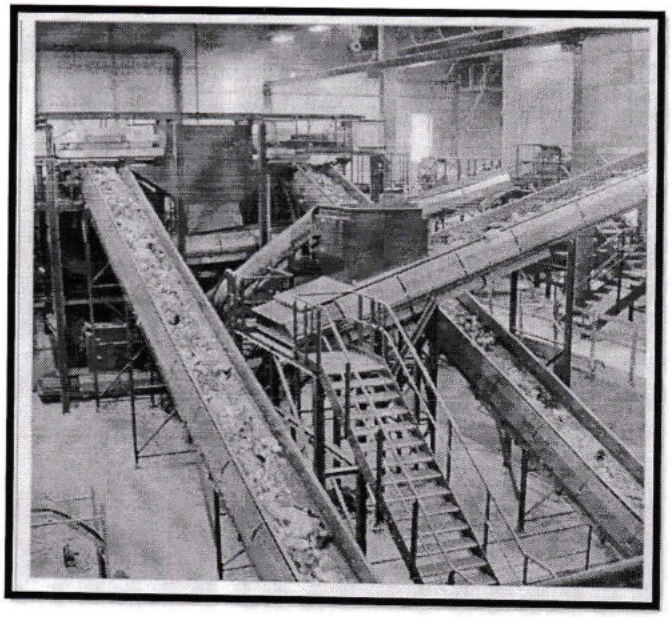


Fig.1 The waste segregation operation

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"REUSE OF PLASTIC WASTE MATERIALS IN PAVING BLOCKS"

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ABSTRACT: *Plastics are rapidly growing segment of the municipal solid waste. Disposal of waste materials including waste plastic bags has become a serious problem. Plastic is a non-bio-degradable substance which takes thousands of years to decompose that creates land as well as water pollution to the environment. It is estimated that the rate of usage is double for every 10 years. Amount of waste plastic bags being accumulated in 21st century has created big challenges for their disposal. The waste plastics in house hold is large and increases with time. In each country waste consumption is different, since it is unaffected by socioeconomic characteristics and waste management programs, but the level of plastics in waste consumption is high. At present nearly 56 lakhs tones of plastic waste is produced in India per year. The degradation rate of plastic waste is also a very slow process. Hence the project is helpful in reducing plastic waste in a useful way. In this paper, used plastic waste in different proportions. It is about recycling waste plastics into pavement blocks and studies their characteristics. Pavement blocks are perfect materials on the pathways and streets for simple laying and finishing. Here the strength properties of pavement blocks comprising of waste plastics and the design considerations for pavement block incorporating waste plastic bags is presented. It will be a soon to modern society and environment. The main aim is to use the plastic nature in construction fields with limited additions. This is one of the best ways to avoid the accumulation of plastic waste. It also helps to conserve energy, reduce the overall cost of construction and hence in this project, attempts made to manufacture the plastic sand paver blocks by utilizing the waste plastics.*

Keywords: Plastic Waste, Pavement Blocks, Plastic Sand Paver Blocks

1. INTRODUCTION

Paver block paving is versatile, aesthetically attractive, functional, and cost effective and requires little or no maintenance if correctly manufactured and laid. Most concrete block paving constructed in India also has performed satisfactorily but two main areas of concern are occasional failure due to excessive surface wear, and variability in the strength of block.

Natural resources are depleting worldwide at the same time the generated wastes from the industry and residential area are increasing substantially. The sustainable development for construction involves the use of Nonconventional and innovative materials, and recycling of waste materials in order to compensate the lack of natural resources and to find alternative ways conserving the environment.

Plastic waste used in this work was brought from the surrounding areas. Currently about 56 lakh tones of plastic waste dumped in India in a year. The dumped waste pollutes the surrounding environment. As the result it affects both human beings and animals in direct and indirect ways. Hence it necessary to dispose the plastic waste properly as per the regulations provided by our government. The replacement of plastic waste for cement provides potential environmental as well as economic benefits.

2. OBJECTIVE OF RESEARCH

- To develop an efficient way to effectively utilize the waste plastics and that plastic wastes acts as a great threat for the sustainment of ecological balance.
- To reduce the consumption of earth based material as clay for the manufacturing of brick that resulted in resource depletion, environmental degradation.
- To reduce the waste plastic quantities on the land and water to avoid land and water pollution.
- To reduce the dumping area of waste plastics.
- To produce the cost effective materials.
- To prevent the people health from harmful diseases.

3. RELATED WORK

B. Shanmugavalli et. al. [1] replaces cement with plastic waste in paver block and to reduce the cost of paver block when compared to that of convention concrete paver blocks. According to Central Research Institute Roorkee "Concrete can be converted into precast masonry units of suitable size to be used for walling. Use of such blocks is more appropriate in a region where bricks are costly, poor in strength and are not available. Depending upon the structural requirements of masonry units, concrete mix can be designed using available ingredients. The blocks can be cast to desired shape and size to facilitate construction of wall of requisite thickness and appearance.

P. Suganthy et al.[2] investigate the application of pulverized fine crushed plastic (produce from melting and crushing of high density polyethylene) as replacement of fine aggregate in concrete with varying known percentages. Their main focus was on optimum replacement of natural sand by pulverized plastic sand. Five concrete mixes were produced from specified concrete materials having replacement of fine aggregate (sand) by 0, 25, 50, 75 and 100% respectively to study the test graph results of various concrete properties. The results showed increase in water/cement ratio with increase replacement of sand with plastic particles to achieve desired 90mm concrete slump. They have also observed from the results that gradual decrease in strength of concrete specimen

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Ossification of Voluminous Soil Fused with Admixtures

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ABSTRACT: Black cotton soil is also called as expansive or voluminous soil. It covers large area of world. The expansive soil has considerable strength in dry state but goes on reducing on absorption of water. Black cotton soil is clay of high plasticity. It has low bearing capacity and highly compressible nature and can cause foundation problems, lifting of building or other structures like pavements, embankments during period of high moisture. Conversely, during period of low soil moisture, expansive soil will collapse and can result in building settlement. Because of high swelling and shrinkage characteristics, shear strength is extremely low and hence there is a need for improvement of these properties. In this paper, an attempt has been made to improve characteristics of B.C. soil by stabilizing with different admixtures such as brick dust, marble powder, fly ash with Magnesium chloride $MgCl_2$ chemical. A large improvement in the strength characteristics such as unconfined compressive strength (U.C.S.) and California bearing ratio (C.B.R.) value of soil treated with different admixture was observed. The swelling of BC soil also reduced by using waste material effectively for controlling the behavior of expansive soil, blending of soil with these non-expansive materials is quite effective.

KEYWORDS: Expansive soil, Fly ash, Brick dust, Marble powder, Magnesium chloride ($MgCl_2$), U.C.S., C.B.R.

I. INTRODUCTION

Expansive soils are those soil which swell considerably on absorption of water and shrink on removal of water. They are popularly known as —Black cotton soill because of their dark brown colour and suitability for growing cotton. They are black due to compounds of iron and aluminum. These soils are deficient in nitrogen, phosphoric acid and organic matter but rich in calcium potash and magnesium. The expansive soil has considerable strength in dry state but goes on reducing on absorption of water. The soil exerts considerable pressure on foundation during swelling. Black cotton soil is clay of high plasticity. It has low bearing capacity and highly compressible nature. Black cotton soils are expansive soil deposits mostly found in the central part of the country. It covers large area of Maharashtra, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamilnadu and Utter Pradesh. These soils have been formed from basalt or trap and contain the clay mineral montmorilionite, which is responsible for the excessive swelling and shrinkage characteristics of the soil. This type of soil is clayey, they swell and become sticky when wet and shrink when dried. During dry season, this soil develops wide cracks. The nature of these soils creates a problem to civil engineering structure particularly flexible pavements constructed on them. Many highway agencies, private organizations and researchers are doing extensive studies on this problem and its remedial measures. Soil stabilization is the method of improving soil properties by blending and mixing other materials. Stabilization can increase the shear strength of soil and also control the shrink-swell properties of a soil, thus improving the load bearing capacity of a sub grade to support pavement and foundation.

II. OBJECTIVES

- To examine the characteristics of soil used by performing different laboratory tests.
- To determine the unconfined compressive strength of soil treated with different admixtures at varying percentage.
- To find out the optimum amount of admixtures required for stabilization of soil.
- To study the comparative improvement in U.C.S., C.B.R. and reduction in free swell index by using different admixture.

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Seismic Performance of High Rise Building with Bracing System

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ABSTRACT: Buildings located in seismic zones with no ductile detailing represents considerable hazard during earthquake. As a result, they suffer severe damage and are responsible for most of the loss of life even for small magnitude of earthquake. In recent years, a significant amount of research has been devoted to the study of various strengthening techniques i.e. to increase the lateral stiffness and resistance to enhance the seismic performance of reinforced concrete multistoried buildings. In the present research study, an attempt has been made to increase the stiffness of the high rise building by using different types of bracing. As a result of this, lateral maximum deflection can be controlled. An analytical study has been carried out by studying G+10 storey reinforced concrete building by using STAAD.proV8i. To find the effect of bracing four models incorporating various types of bracings have been developed. Response Spectrum Method of seismic analysis has been adopted with view to understand the accurate dynamic parameters. The study reveals that, storey drift, as well as element displacements is reduced considerably and are well within permissible limits.

KEYWORDS: Bracing, Response spectrum method, base shear, storey drift, displacement.

I. INTRODUCTION

Due to increased seismicity of various parts of the country, earthquake has become the important force which must be considered while designing. Many existing reinforced concrete frame buildings located in seismic zones are deficient to withstand moderate to severe earthquakes. Insufficient lateral resistance along with poor detailing of reinforcement is the main reasons for inadequate seismic performance of these structures. In recent years, a significant amount of research has been devoted to the study of various strengthening techniques to enhance the seismic performance of reinforced concrete frame members and structures. While many of these techniques can effectively improve the lateral stiffness and resistance of the existing structures, adequate seismic behavior will be obtained only if the retrofitting structure can satisfy the strength and ductility demands imposed by the earthquake. In this regard bracing systems proves to be one of the most promising techniques to achieve this objective.

Braces are one of the most efficient lateral force resisting elements in high rise building. It is increasingly used by designers in new structure as well as rehabilitation of existing ones. Pure frame for high-rise buildings have almost disappeared, since they are technically less efficient and not economically viable. Braces are incorporated in conjunction with reinforced concrete moment resisting frame to resist the major portion of lateral load induced by an earthquake.In tall structure, the vertical load, i.e. dead and live load do not pose many problems in the analysis or design, as they are mostly deterministic. But the lateral loads due to wind or earthquake, are a matter of concern. These require special consideration in the design of tall buildings. These lateral forces can produce critical stresses in the structure, induce undesirable vibrations or cause excessive lateral sway of the structure. Advancements in the design of high rise building frame have emphasized the importance of limiting the side sway under the action of lateral loads. Braced frame building has less lateral sway when compared to buildings with traditional rigid frames. The presence of bracings in the frame alters the overall behavior especially when the structure is subjected to lateral loads

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Examining the Properties of Concrete by Partial Replacement of Natural Sand with Crushed Sand

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ABSTRACT: Depletion of river sand which is excavated from the river bed leads to environmental problem. Due to this government has restricted the excavation of river sand and it has become a scarce commodity. Hence it is needed to replace the river sand. Therefore the present work has initiated to make the concrete useful by replacing the natural sand by crushed sand in the concrete. Concrete is the most used construction material having basic ingredients as binding material, fine aggregate, coarse aggregate and water in predetermined proportion all the ingredients are homogeneously mixed to obtain resulting mixed of desired strength. For the mix design of M25 grade IS 10262:2009 is used. Various test has been performed to examine the parameters such as compressive strength, workability of concrete with crushed sand as replacement to natural sand. The Replacement of the sand with stone dust shows an improved in the compressive strength of the concrete. As the replacement of the sand with stone affected workability of the concrete is decreasing due to the absorption of the water by the stone dust. In this study, conventional mix (M25) with water to binder ratio is maintained as 0.4, 0.45, 0.5 is used. Here the River Sand is partially replaced with Manufacturing Sand with different percentages like 0%, 25%, 30%. Also fly ash is used in this study as a replacement for cement in 20%.

KEYWORDS: Manufacturing Sand

I. INTRODUCTION

In India, the natural sand which excavated from river bed is used to produced conventional concrete. Conventionally concrete is mixture of cement, sand and aggregate. Properties of aggregate affect the durability and performance of concrete, so fine aggregate is an essential component of concrete. Depletion of natural sand cause the environmental problem and hence sand excavating is restricted by government which resulted in shortage and drastically increase in its cost. The use of manufactured sand as an effort towards viable development in India. It will help to find viable solution to the diminishing availability of natural sand to make eco-balance. The M sand is obtained by crushing the rocks. Environmental concern are also been rising against uncontrolled extraction of natural sand. The argument is mostly in regards of protecting the natural river bed against erosion and importance of having natural sand as a filter for ground water. The global consumption of natural sand is very high, due to the extensive use of concrete. Particularly in India, Natural sand deposits are being depleted and causing serious threat to environment as well as the society. In general, the demand of natural sand is quite high in developing countries to satisfy the rapid infrastructure growth, in this situation developing country like India facing shortage in good quality natural sand. In today's competitive world

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Use of Demolished Material in Concrete

Mr. Manish S. Deshmukh

Abstract— Now days, demolition of older building structures to clear a path for new and current structures are normal highlights in urban zones because of fast and growing urbanization. Be that as it may, almost no obliterated cement is reused or reused. The severe ecological laws and absence of dumping locales in urban zones on one hand are making the removal of destruction squanders dangerous while then again the quarrying of crude materials is getting troublesome. In this paper we are investigating the replacement effect of cement, aggregate (Fine/Coarse) based on various size of demolished materials strength and working ability of concrete. In this study is to analyze mix concrete with M25 grade was designed based on IS code 10262-2009. So that one time is changing the material of concrete. We have measured the compressive strength of concrete at 7 to 28 days with 20% fine aggregate was used and compare with demolished waste at 28 days. The compressive quality of reused solid made utilizing 30% of demolished squander coarse aggregate is practically same as referred concrete. The outcomes show that still higher substitution of the constituent materials is conceivable absent really any trading off the 28 days quality and functionality of concrete.

Index Terms— Concrete, compressive strength, recycled concrete, cement

I. Introduction

Development of materials is progressively decided by their Environmental attributes. Recycling is the important factor in concrete technology because it secures common assets and to eliminates requirement for removal by utilizing the promptly accessible concrete such as fine and Coarse aggregate for new concrete. Reusing of concrete and cement is moderately basic procedure. It includes evacuating, squashing, breaking of existing cement of material with a predefined size and quality. The devastating attributes of solidified cement as like as the normal stone and are not altogether influenced by the evaluation or nature of the first concrete. Reused of aggregate in concrete is designed from everything except the most unfortunate quality unique cement can be relied upon to breeze through similar assessments expected of regular aggregate.

The crushing characteristics of hardened concrete are similar to those of natural rock and are not significantly affected by the grade or quality of the original concrete. Recycled concrete aggregates produced from all but the poorest quality original concrete can be expected to pass the same tests required of conventional aggregates. This Investigation is utilization of reused fine and coarse aggregate for the most part centered on the coarse portion and disregarded the fine portion. The fundamentally on the grounds that the extraordinary porosity of fine reused materials prompts decreases the presentation of any composites concrete. The most significant attributes of solidified mortar for divider covers such as mechanical quality, water porousness, cement quality and protection from enduring, furthermore, those of new mortar are working capacity, and water retentively.

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Mr. Manish S. Deshmukh, Assistant Professor at P. R. Pote College of Engineering, Amravati

II. Related Work

Ferrari et. al. [1] investigation of this paper we understand that A strategy for reusing recovered cement is uncovered, involving the expansion of 1) streak set quickening agents 2) super-permeable polymers to disconnected remaining new disconnected cement and mixing this blend until granular materials are framed in olend plan M25 blend structure.

Preeti Saini et. al. [2], anaylsis of this paper get that gathering the pre-owned cement and separating it, reused solid totals produced, The utilization of reused solid total as course total in solid blend has been started, to utilize the waste materials. Whenever reused total over 60% than its effect on solid properties decreased 25-30%.

P. Saravanakumar et. al. [3] examination data that compressive and elasticity of admixed RAC has been seen as low quality of NAC. 90 days of quality increases and improvement in solid over 20% concrete substitution GGBFS without GGBFS. 41% GGBFS invigorates higher with half RA. Chloride particle infiltration test was watched higher substitution (half) concrete degree of 12% GGBFS for 25 to 100% RA.

Jitender Sharma et. al. [4] examination of this paper gives essential thought regarding presentation and creation of reused solid totals from crushed waste, lessen utilization of normal totals and decrease cost of solid, general investigation of reused total. When to W/C proportion utilized in RA blend is decreased, rigidity and modules of versatility are more; High water retention and porosity.100% substitution of NA by RCA in solid blend may impact on chloride particles opposition, if legitimate plan isn't embraced.

Manish Kumar Singh et. al. [5] examination gives the thought regarding the squashed development and crushed solid squanders is isolated by sieving to acquire needed area of total, a few tests are led to decide the total properties before reusing it into new concrete. Development and Demolished waste is utilized as the coarse total in new concrete. Utilization of the waste total in the new concrete as the reused

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Optimum Position and Location of Shear Wall and Braces as Outrigger System

Mr. S.V.Dhoke

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ABSTRACT: The high development of buildings is growing rapidly around the world, introducing new challenges that need to be addressed through engineering judgments. In modern tall buildings, side loads caused by wind or earthquake often oppose the system of connected sliding walls. But when a building increases in height, the rigidity of the structure becomes more important, and the introduction of an outrigger system is often used to ensure sufficient lateral rigidity of the structure. Hood and is commonly used as one of the structural systems to effectively control excessive drift due to lateral load, so that during a small or medium lateral load due to wind or earthquake load, the risk of structural and non-structural damage can be minimized.

KEYWORDS: Outrigger, tall buildings, story drift, displacement & time period

I. INTRODUCTION

The system of outriggers and belt farms is one of the systems of resistance of lateral loads, in which the outer columns are tied to the central wall of the core with very rigid outriggers and belt farms on one or more levels. The belt farm tied the peripheral column of the building, while the outriggers involved them in the main or central wall of the shift. The system of outriggers and belt farms is usually used as one of the structural systems for the effective control of excessive drift due to lateral loading, so that during small or medium lateral loading due to wind or earthquake loads, the risk of structural and non-structural damage can be minimized. For high-rise buildings, especially in the seismic active area or the dominant wind load, this system can be selected as the appropriate structure. Sliding walls and braces are a system that is superior, they are very effective in reducing the reaction of buildings; therefore, their optimization should be checked on the building.

II. LITERATURE REVIEW

The results of the analysis show that the displacement values were less than the structure of the pipes and the structure ahead. Also, the stability of the structure will be increased, and the columns oscillate, using an L-shaped wall of shear at angles in a geometrically irregular structure. When a structural autrigger system is provided in a history that has maximum drift, it can be performed as the maximum drift controller [2,3].

The analysis was performed on a 30-storey three-dimensional model with different outrigger configurations, such as a single and double exposure system, changing the cross-sectional dimensions of the columns and the wall thickness of the shift. This model was analyzed by analyzing the range of responses according to standard Indian codes and the following conclusion was drawn [4,6].

When only one exposure was provided, the system was not effective in drift. There were significant changes in the drift profile when two outriggers were provided. One important conclusion presented in this study is not a story that was found as a soft story for all 9 tests made in a two-discovery model with a change in the cross-sectional dimensions of the columns and the thickness of the shear wall [8.9].

III. MODELING

The following models are prepared using ETABS software.

i. Model I: Building without any Outrigger system

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14,15,16,

Design and Analysis of Low Power Amplifiers for WLAN Application using 45nm CMOS Technology

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Abstract— **Power amplifier is a key building block in all RF transmitters. To lower the power consumption to improve high efficiency and allow full integration of a complete radio System-on-Chip, it is desirable to integrate the entire transceiver and the PA in a single CMOS chip. While digital circuits benefit from the technology scaling, it is becoming harder to meet the stringent requirements on linearity, output power, bandwidth, and efficiency at lower supply voltages in traditional architectures. In this paper for design of low power consumption, power amplifiers has triggered extensive studies and design with analysis the different types of power amplifiers and made the impact related to the power consumption, efficiency, voltage and current waveforms, area of chip layout and other related parameter and depending upon simulation result obtain which provide better enhancement and linearization for different parameter that power amplifier will be propose best for WLAN application. For the design and analysis of power amplifier there is consideration of two stage power amplifier, Push-Pull power amplifier and operational transresistance amplifier in nanometer CMOS technology. A two stage CMOS power amplifier is implemented in 45nm CMOS technology using ADS tool operating for WLAN application.**

Keywords— **Low power, Amplifier, CMOS technology, Design, WLAN.**

I. INTRODUCTION

The wireless market has experienced a remarkable development and growth since the introduction of the first modern mobile phone systems, with a steady increase in the number of subscribers, new application areas such as Bluetooth (IEEE802.11) and higher data rates. As mobile phones and integration of wireless connectivity have become consumer mass markets, the prime goal of the IC manufacturers is to provide low-cost solutions. CMOS has been for a long time the choice for digital integrated circuits due to its high level of integration, low-cost, and constant enhancements in performance. Power amplifier circuit and this ultimately translates to lower power consumption. Achieving a high gain and good impedance match over the entire frequency band makes the design a challenging task. Fig.1.1 shows Power Amplifiers (PA) are a key part of the RF front-end in any transmitter. It is a very power-starving block and usually the last stage of the transmitter end. Power amplifiers boost the signal power high enough such that it can propagate the essential distance over the wireless medium. Typically, this power is delivered to an antenna which acts like a load. The output power level from a PA is determined by the application it is designed for. It can range from a few milli-watts for home networks to hundreds of watts at base stations. In a narrowband application, the PA is designed for a Particular frequency range and all the parameters are measured at that frequency.

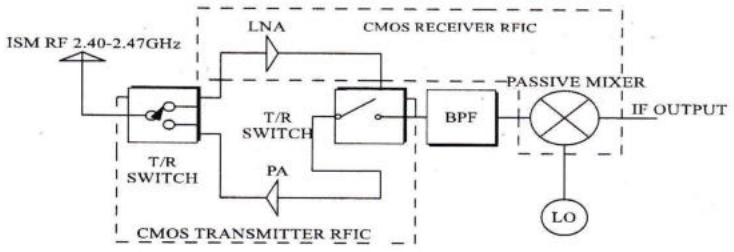


Fig 1: Block Diagram for RF Front End consisting of power amplifier.

Radio Frequency Integrated Circuits (RFIC) is integrated circuits operated in radio frequency range. RF Power Amplifiers are part of the transmitter front-end, and are used to amplify the input signal to be transmitted.

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Autonomous Floor Cleaning Robot

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***Abstract*— Automatic floor cleaning robot is a compact robotics system which provides floor cleaning service in large space like rooms, offices which reducing human labour. Fundamentally as a robot it eliminates human mistake and provides cleaning action with much more effectiveness. Robot operates in autonomous mode as well as in manual mode. If we clean the floor physically then there is a possibility that the operator will leave some portion of the floor. Manual work is time consuming and frustrating to clean the floor. Also in big offices floor area is extremely vast and the people involved there for cleaning purpose cannot clean it much more efficiently. Thus in the large space cleaning robot is more efficient.**

Keywords*— *Floor detection, light sensing, floor cleaning robot, Bluetooth

I. INTRODUCTION

In recent years, robotic cleaners have taken major attention in robotic research due to their effectiveness in assisting humans in floor cleaning applications at homes, hotels, restaurants, offices, hospitals, workshops etc. Basically, robotic cleaner are distinguished on their cleaning expertise like floor mapping, dry vacuum cleaning etc. Each cleaning and operating mechanism of robotic floor cleaners has its own advantages and disadvantages. In this work, "Autonomous Floor Cleaner "has been designed for offices, homes also in collages. In one of the mode this robot is fully automatic and manually controlled and making decisions on the basis of humans or various sensors which are used in this cleaning robot. These sensors are controlled by Arduino controller also controls the DC motors with the help of driving circuitry.

In manual mode, the robot can also be used to clean specific area of a room. The mechanical designs of robot are including vacuum cleaning mechanism, phenol tank, DC fan, etc. The main objective of this project is to provide a substantial solution to the problem of manufacturing robotic cleaner utilizing local resources while keeping it low costs. Manual work is taken over the robot technology and many of the related robot appliances are being used extensively also. Here represents the technology that proposed the working of robot for Floor cleaning. This floor cleaner robot can work in any of two modes i.e. Automatic and Manual. RF modules have been used for wireless communication between remote and robot. This robot is incorporated with IR sensor for obstacle detection.

These robots operate semi- or fully autonomously and manually to perform services useful to the well-being of humans and equipment. With the aim of keeping our robot as simple as possible, while able to perform the initial goals, i.e. an autonomous vacuum cleaner robot able to navigate through a room or a house with the minimum human assistance.

II. LITERATURE SURVEY

Robotic vacuum cleaner is an autonomous electronic device that is intelligently programmed to clean a specific area through a vacuum cleaning assembly. Some of the available products can brush around sharp edges and corners while others include a number of additional features such as wet mopping and UV sterilization rather than vacuuming. Some of the available products are discussed below. A. iRobot [2] In 2002, iRobot launched its first floor vacuum cleaner robot named Roomba. Initially, iRobot decided to manufacture limited number of units but Roomba immediately became a huge consumer sensation. Due to its increased market demand, a series of following robots have been launched in the market:

In this method the path of the robot is based on a random walk. Which means when the robot senses a hurdle through its ultrasonic sensor it is programmed to turn away from it and goes in another direction . This proved out to be the most optimum as it uses a less complicated algorithm. It is also easy to achieve since there is considerably less hardware when compared to the other two. It is also described that a local complete coverage path planning is one other form of describing a path planning based on the coverage rate and efficiency. In this path planning the robot plans its path in a comb shape in order to avoid overlapping of its path and which theoretically has the highest coverage rate.

Traditionally floor is cleaned with the help of dry mop or wet mop using the hand as a potential tool. They have to scrub hard on the surface. The cleaning includes cleaning of various surfaces basically cement floors, highly polished wooden or marble floors. Among these floors the rough surface floor such as cement floor, mostly present in semi urban areas are covered with so much dust.

From early human civilization human is increasingly dependent on the machines. Human is trying to reduce the workload upon himself, By the help of machines also we can get huge efficiency because there is no chance of human error there. Now -a -days from 30 years intelligence and robotics growing with a vast pace. Every human is using 2-3 robot at least per day. If we look at past 30 years we will see robotics from large structure going to small and smaller in Nano range. Very complicated sensors have been designed to help the robot in various works . Complicated pneumatic and actuating systems have been designed. One of the best examples is the mobile phone. If we look at the floor cleaning robot we can see iRobot is dominating the market

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Image segmentation and classification for vision based detection and tracking of moving object in video surveillance

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***Abstract*-Most moving object detection methods operate by trying a binary classifier to sub-windows of an image, after that a non-maximum suppression step comes where detections on overlapping sub-windows are eliminated. As the number of feasible sub-windows in even middling sized image datasets is very large, the classifier is usually learned on only a subset of the windows. This circumvent the computational complexity of dealing with the entire set of sub-windows , however, this paper address that, it leads to sub-optimal detector performance. Specifically , the main offering of this paper is the initiation of a new method, Max-Margin object detection (MMOD), for understanding how to detect objects in images. This method does not execute any sub sampling, but instead optimizes overall sub-windows. MMOD is used to enhance any object detection method which is linear in the learned parameters, such as Histogram of Oriented Gradient (HOG) or bag-of-visual-word models. Using this strategy we manifest substantial performance gains in three publicly available datasets. Evidently , we represent that a single firm HOG filter can conquer a set-of-the-art deformable part model on the object detection data set and benchmark when the HOG filter is assimilated via MMOD.**

***Keywords*- Python, Open CV component, video surveillance, detection, tracking, moving images, object detection.**

I. INTRODUCTION

nowadays, most of the living locality viz parks, metro stations, streets, shopping malls, schools and banks are supervise by video surveillance systems. accordingly, the researchers has been concentrating on moving object detection and tracking. These system predominantly comprise an breakthrough component for motion detection, object recognition, tracking, performance learning ,video retrieval. The technological advancement of cameras and computers used for recording and scrutinizing the video leads the requirement of automatic video scrutiny. But the fully automated surveillance systems are still deficient, So many research work has been done in this emanating field[4].

This paper addresses the real time object detection and tracking which are predominant and challenging function in many computer vision applications such as video surveillance, robot navigation, vehicle navigation & blind man navigation system. Object detection includes detecting the object in a succession of frames. Every tracking technique needs object detection mechanism either in each frame or in the video sequence. Object tracking is the process of locating an object or multiple objects using either static or dynamic webcam. Video surveillance makes it feasible that the computer can involuntarily locate, perceive and track the changes by the automatic examination of images in an order which is recorded by cameras in natural circumstances. Each and every application needs disparate requirements to use video processing by systematic manner. However, the common first step between all applications is finding regions that related to moving object. Motion detection is a difficult problem because of changes in scenes [4].

The accessibility of high power computers, high quality and low cost camera increases interest in object tracking algorithms. Three key steps for video analysis are: Detection of moving Objects, Tracking of that objects from frame to frame, Analysis of Object tracking to recognize their performance. The main application areas of object detection and tracking are: Motion based recognition, automated surveillance, video indexing, traffic monitoring, vehicle navigation and etc

Nowadays Image segmentation and classification for vision based detection and tracking of moving object in video surveillance is very useful for industrial purpose and also in security system .if we used this technique as security system in banking, court , hospitals ,school etc.. then it will be very useful for them. For example in a bank thief entered with a knife, gun etc.., and when it is captured by the webcam then it automatically margin that particular image ,capture the photo of that image and send it on a mobile of authority as a alert message to them.

In this paper we are using MMOD algorithm. Max-Margin Object Detection (MMOD), used for learning to detect objects in images. This technique does not carry out any sub-sampling, but instead optimizes over all sub-windows. On all datasets, using MMOD to discover the parameters of the detector lead to substantial enhancement [10].

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Image Partitioning Techniques: A Review

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***Abstract*— A process of sub-dividing a digital form of an image into its parts (which might be an object or object-region) is popularly known as image partitioning or segmentation. This division technique allows to extract required parameters, attributes from a digital image, which are useful in further processing of an image. Different practical applications are now-a-days being designed which are based on segmentation. According to requirement of an application different types of segmentation algorithms are formulated, designed and applied. The choice is generally dependent on characteristics and attributes desired. This paper is intended to review existing image partitioning techniques and practices.**

Keywords— Feature, Seed, Segmentation, Region Growing, Texture.

I. INTRODUCTION

The image division is generally used to cluster no. of pixels of a digital image into some pivotal regions and its boundaries. The main reason behind performing image partitioning is to simplify image representation and/or to modify a digital image into more meaningful features and parameters which can be easily formulated and examined in a much simpler way. Image segmentation is quite handy tool in locating objects/regions and the boundaries of those regions (popularly known as principal components) present in any image. This means that an image segmentation/partitioning is nothing but a process of assigning a particular unique label to every pixel contained in an image wherein these components has common sharing of particular attribute/feature of an image (for e.g., intensity, brightness, texture and /or color). Image Division also helps to classify a digital image into a set of unique sub-regions with no overlapping with each other. [1][2]. An image segmentation tool, which is robust, efficient and reliable enough is required in a preprocessing operation stage of digital vision operations. Digital vision operations include object/region detection along with boundary recognition in an image. In image processing, color image segmentation is more allure than gray scale image segmentation, very basic reason behind same is that color image is capable of providing much larger amount of data/information than a gray scale image. Image segmentation tools finds application in various fields like wireless sensing networks, biomedical imaging operations, object/edge sensing, satellite imaging process, computer -vision, and many more to be listed. [1][3][5]

For an image analysis to be meaningful, the partitioned objects/regions must possess very strong correlation between attributes of those objects/regions of interest. This is a very first step in the process of transforming the digital image into subparts for high-level description of an image as objects, features and characteristics. The success of an image analysis tool completely depends upon its reliability in the process of image sub-division, but partitioning a digital image is mostly not so accurate and again it remains always, a challenging task. [1][2][4]Some popularly used techniques are used for image segmentation operations are as thresholding, normalized cut operations, mean-variation, component-labeling, k-means clustering algorithm, edge-detection technique, region growing approach, graph partitioning method and many more in the practice. The specific method/technique of an image segmentation with its scale and level of segmentation are basically designed or chosen on the basis of particular characteristics required for the application being designed. [1][2]

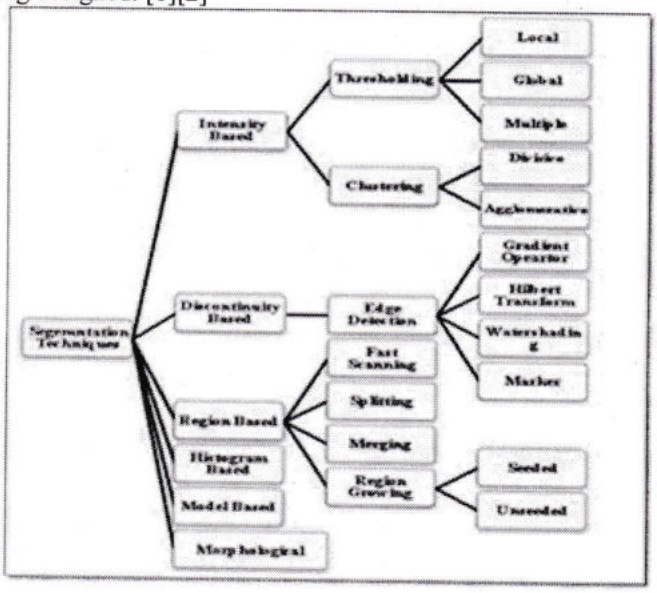


FIGURE 1. Popular Image Segmentation Techniques

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CNC Based Portable Pen Plotter

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***Abstract*— The term CNC applications refer to computerized numerically controlled machining applications. These techniques are used in manufacturing. Particularly in machining operations involving manufacturing of a wide variety of components with medium to high level of production and small to medium production batches. Added advantages are available when the components to be manufactured can form homologues groups of similar products, that reduces the effort and cost of programming for manufacture of each component. CNC machines are mostly results in lower manufacturing operations only when the above conditions are satisfied. For example, CNC machines are not favorable for very high- volume manufacturing of one standard product. In such cases it is less expensive to use special purpose machines rather than CNC machines. Also, it is undesirable to incur the high overhead cost of programming for manufacture of one-off components. In those cases, manually controlled machines are likely to provide most satisfactory solutions. The main objective is to gain products at a much lower manufacturing cost, compared to the one resulted from conventional applications. CNC applications, by their complexity, allow the obtaining of much more reduced manufacturing times as compared to the conventional ones. The use of modular systems for orientation equipment has reduced substantially the cost of fixtures. Also, the increase of the cutter life, allows the decreasing of tools purchasing costs. Tools magazines which are present in all manufacturing centers reduces need for large warehouse storage for these tools.**

***Keywords*— CNC, 3D printer, G-code, Arduino.**

I. INTRODUCTION

CNC is a generic term which can be used to describe many types of device, this would include plotters, vinyl cutters, 3D printers, milling machines and others. CNC stands for Computer Numerically Control and basically means that the physical movements of the machine are controlled with the help of few instructions like coordinate positions which can be generated using a computer. CNC plotter is a computer-controlled plotting machine related to the machine plotter used for plotting various schematics, such as maps, graphs, diagrams, pictures, circuits, and images. CNC plotter can perform the tasks of plotting on many surfaces such as paper, graphs, sheets and the PCB printing paper. The plotter stands for a computer printer for printing vector graphics. A plotter is capable of providing a hard copy of the output if needed. It is also capable of drawing pictures on a paper using a pen which is been included in this prototype. Pen plotters has mechanism for printing by moving a pen or other instrument across the surface of a piece of paper. Denotes means that plotters are vector graphics devices, rather than raster graphics as with other printers. Pen plotters are capable of drawing complex line art, including text, but do so slowly because of the mechanical movement of the pens. Mostly they are not capable of efficiently creating a solid region of color, but can hatch an area by drawing a number of close, regular lines. CNC plotter can reduce waste, frequency of errors, and the time the finished plot takes to get to table. Plotters are tool to provide efficient and fastest way to produce very large scale drawings and high-resolution vector-based artwork when computer memory was considerably expensive and processor power was very limited, and other types of printers possessed limited graphic output capabilities. Pen plotters have essentially become obsolete and have been replaced by large-format inkjet and LED toner based printers. These devices are mostly capable of learning vector languages which are originally designed for such a plotter and they offer a more reliable alternative for raster of data.

II. SYSTEM ORGANISATION

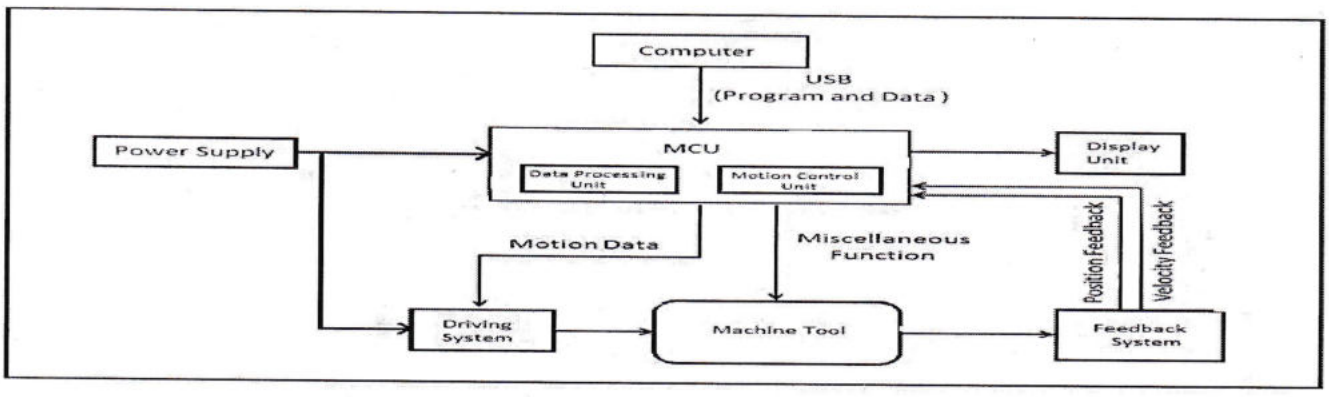


Fig: 1. Block diagram for CNC based 3D pen plotter.

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A Review on Artificial Intelligence Based Traffic Light Detection System for Autonomous Car

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Abstract— **Autonomous car is also referred as self-driving car which requires less input from human being to operate it for controlling its navigation or to accomplish other tasks. This proposed idea will help preventing accidents while following the traffic rules and avoiding collisions. In this paper, we will use Deep Learning techniques and the Tensor flow framework with the goal of navigating a driverless car through an urban environment. The novelty in this system is the use of Deep Learning vs. traditional methods of real-time autonomous operation as well as the application of the Tensor flow framework itself. This paper provides an implementation of protobuf and open CV for identifying driving indicators, how to implement them in a real system, and any unforeseen drawbacks to these techniques and how these are minimized and overcome. When detecting the traffic lights, if the traffic light is red the car won't move forward whether the driver is accelerating or not and same for the "stop" sign. It will slow the car speed if another car in front is too close and will break completely if the front object is close as a predefined distance. A radar system will be present at the backside of the car which will detect the vehicles coming too close and will inform the driver by a buzzer this will cause the driver to drive the vehicle more carefully. Number of accidents happens due to lack of skill, not following the traffic rules, lack of sleep, drunk etc. Accidents in which child get locked in the car and died. People are too careless with their life. Through this approach accidents can be prevented.**

Keywords— **Car, Autonomous, Self-driving, Artificial Intelligence, Driverless**

I. INTRODUCTION

An autonomous car is a vehicle that can guide itself without or little human conduction. This kind of vehicle has become a concrete reality and may pave the way for future systems where computers take over the art of driving. An autonomous car is also known as a driverless car, robot car, self-driving car or autonomous vehicle. This paper will help preventing accidents while following the traffic rules and avoiding collisions. The vehicle can accomplish this task by using sensors to "see" where it is and what is around it. These sensors vary from close range infrared sensors to longer ranged high frequency radar, 3d scanning LIDAR and global positioning systems.

Creating a low cost autonomous vehicle control system (AVCS) that could be used to convert a regular radio-controlled electric car to an autonomous driving vehicle platform has been the main goal of our paper. A successful implementation of this system allows the vehicle to follow lanes and avoid obstacles while maintaining a given minimum speed.

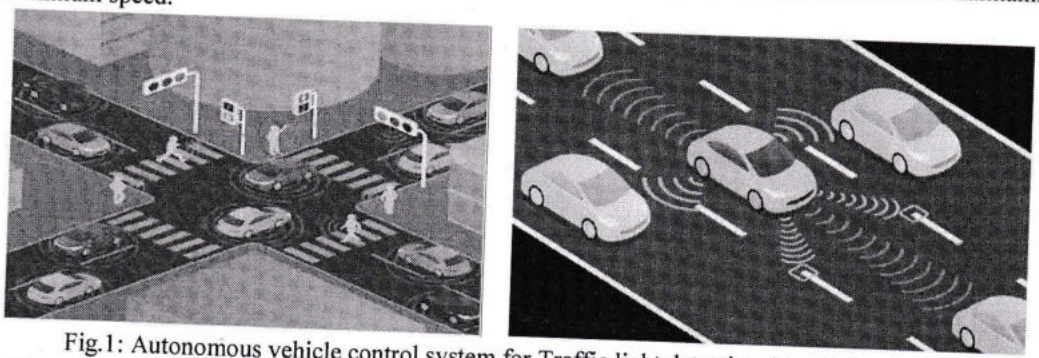


Fig.1: Autonomous vehicle control system for Traffic light detection & collision Avoidance

When detecting the traffic lights, if the traffic light is red the car won't move forward whether the driver is accelerating or not and same for the "stop" sign. It will detect and prevent the front collision of the car. It will slow the car speed if another car in front is too close and will break completely if the front object is close as a predefined distance. A radar system will be present at the backside of the car which will detect the vehicles coming too close and will inform the driver by a buzzer this will cause the driver to drive the vehicle more carefully. Number of accidents happens due to lack of skill, not following the traffic rules, lack of sleep, drunk etc. Accidents

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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AUTOMATED GARBAGE MONITORING SYSTEM USING GPS, GSM AND IOT

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Abstract - In India, SWACCHA BHARAT ABHIYAN is a mission started by our P.M, Which aims to clean up the roads, streets and to develop the infrastructure digitally of India's city and rural areas. Focusing towards the clean India mission, we have provided an efficient solution for monitoring the waste level on the real time basis. Whole system is Internet of things based. The level ultrasonic sensors in the garbage dustbin detect the garbage level continuously and accordingly the system provides the information to the control office. This will avoid the overflowing of the garbage dustbins. Ultimately it will help us to keep our environment clean and also reduces the health issues. This project Internet of things Based Garbage Monitoring System is a very smart system which will help to keep our village and cities. We see that in our cities public bins are overloaded and it create unhygienic conditions for people and that place leaving a bad smell. To avoid all these things we are going to implement a project Internet of things based garbage monitoring System. These bins are interfaced with Arduino Uno base system having ultrasonic sensor along with central system showing the Current status of waste on display and web browser HTML page with Wi-Fi module. To increase the cleanliness in the country government started the various project.

Keywords - **IOT, Cloud, GPS, Ultra Sonic sensor, ESP8266, ATMEGA328, GSM, etc…**

I. INTRODUCTION

Due to increase in population of India it also leads to increase in the garbage also. India faces major environmental changes associated with inadequate waste garbage collection, transport and disposal[6]. we need many man powers, by this waste management monitoring system we reduce the man power with the help of embedded system is interfaced with Internet of things[6]. Implementation is done with the help of Internet of thinks concept. The Internet of things is a concept in which surrounding objects are connected through wired and wireless networks without user intervention. Objects communicate and exchange information. In this system multiple bins are located throughout the cities or the Campus, these bins are provided with a ultrasonic sensor which helps in tracking the level and weight of the garbage dustbins and a unique ID will be provided for every bin in the city so that it is easy to identify which garbage dustbin is full[5].

The model uses a Wi-Fi module (ESP8266) which sends data to a web server which is developed by the authors using Bootstrap. The data sent with a timestamp by the RTC module which also provides the user with the location of the dustbin by the use of a GSM module. The solutions created for management of waste garbage faces its own difficulties. The solution proposed by suggest the use of only a GSM module and an sensor which send the status of the dustbin directly to the registered number.

For effective usage of the monitoring system, IOT concept has been used for data communication, processing, storing and retrieving. The proposed work helps to eradicate the everyday difficulty of managing the garbage in the environment which is possible with the help of Internet of things [7]. These system consists of an Arduino Uno microcontroller, a garbage dustbin loaded with ultrasonic sensors and they are monitored continuously through a monitoring panel at the control office with the help of GSM & GPS module [7].We may dump the waste in the government allocated bins in area/locality or hand it over to the door to door collectors and after that the garbage should reach its end site which is very crucial and that's where our proposed model is going to fit in[8].

II. LITERATURE REVIEW

S.S.Navghane, M.S.Killedar [1] 2017 These dustbins are interface with microcontroller based system having IR wireless systems along with central system showing current status of garbage, on mobile web browser with HTML page by Wi-Fi module. . The main aim of this project is to reduce human resources and efforts along with the enhancement of a clean city vision.

Ashima Bajaj [2] 2017 this method is advance in which garbage monitoring system management is automated. This project Garbage Monitoring system using Internet of things is a very innovative system which will help to keep the cities clean.

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A Review on Comparative Analysis for Lane Detection System Using Canny Edge Detection, Hough Transform and Kalman Filter

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Abstract- **Many of the researchers are developing an efficient technology for automated alarm system while crossing through lanes on roads. Lane detection through image processing is one of the major tasks. A camera has been mounted in the front of vehicle to take real time images; and a fast processor can be use to automatically detect lanes according to image processing algorithms. This paper is based on algorithm development using canny edge detector and Hough transform. The Raspberry Pi is used for real time processing of image. Global Positioning System, which the technology used to find the location. GPS can be interfaced with the Raspberry Pi Serially to get the positioning parameters like Latitude and Longitude. The live position of the vehicle on road has been detected on map.**

Keywords- **Lane detection, Canny Edge Detector, Hough Transform, GPS modem ,Raspberry Pi.**

I.INTRODUCTION

Vehicle accidents on roads are the major problem faced by the government of any country. There may be various reasons of accidents; it can be due to bad visibility, consumption of alcohol during driving, inattention during driving a car, etc. Whatever be the reason of accidents, it causes severe loss in form of infrastructure or a life. One of the major reasons of accident is sudden change in lane on a fast driving road. If all vehicle will follow single lane then traffic jam will be minimize, so lane detection can avoid unnecessary traffic jams. It is essential to develop systems that can assist driver while navigating on the road.

Lane identification system can immensely help the purpose. Detection of tracks and obstacle on roads can be done by using proximity sensors, which can identify the ground plane but it cannot identify shape and various properties of the object or ground.

An IR sensor can be used to detect roads, but it has various limitations. Considering these facts, today's research focuses more on digital image processing approaches. Autonomous lane detection is challenging due to range of environmental conditions under which these systems operate: rain, shadow, sunshine, day, night, fog etc. This paper is describing lane detection using canny edge detector and Hough transform with kalman filter.

II .LITERATURE REVIEW

This paper develops a robust and effective vision-based lane detection approach as in [1]. In the proposed method, gray-scale images are converted to two binary images from a fixed region of interest (ROI). These images are then merged using a novel neighborhood AND operator and then transformed to a bird's eye view (BEV) via inverse perspective mapping (IPM). Experimental results show that the proposed method accurately detects lanes in complex situations including worn-out and curved lanes. This paper proposes a robust lane detection method under the assumption that lane markings are parallel.

Y. Xu, X. Shan as in [2] has proposed a method for lane detection based on combined fuzzy control with RANSAC algorithms. Author suggested the traditional lane detection methods based on the RANSAC algorithm used to cause many false detection and unable to accurately detect the lanes in complex road environment, because of the existence of interferential noise points in the set of sampling points.

M. Kodeeswari has developed a method based on image processing techniques to identify the lane lines on the hilly road based on Hough transform as in [3]. The proposed method processes the live video stream from a monocular camera using matlab and extracts the position of lane markings and an algorithm is used to find the lane lines present on the road.

Jieh-Shian Young proposed a method for the positions of the lane marks can be evaluated by visual information of the image captured from a single charge-coupled device (CCD) camera as in [4]. This proposed approach originally utilizes the properties of the CCD array in a camera to achieve the aim of objects positioning. The results show that the proposed approach is able to achieve object positioning. The accuracy of the position evaluations depends on the pixels of objects picked out in an image, while it is sometimes not easy to discern the exact pixels of objects in the image. The image disturbances from vehicle vibrations or image background are also significant for the position evaluation accuracy.

Jongin Son proposed strategy for functions admirably in different lighting conditions like awful climate conditions and at evening time as in [5]. They have considered the three noteworthy segments: 1)they distinguished a flight point in view of a voting map and recognize a versatile region of interest (ROI) to diminish computational complexity.2) They have utilized the distinctive property of path hues to finish lighting invariant path marker applicant location. 3) Lastly they locate the principle path utilizing a clustering technique from the path marker competitors. At the season of lane departure, their framework closes driver caution flag. The creators got a normal discovery rate of 93% under different lighting conditions and the general procedure takes just 33 ms for every frame.

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IMAGE SEGMENTATION AND CLASSIFICATION FOR VISION BASED DETECTION AND TRACKING OF MOVING OBJECT IN VIDEO SURVEILLANCE.

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Abstract: Moving object detection and tracking field gains a vast interest in it. Most of the moving objects detection methods operate by trying a binary classifier to sub-windows of an image, after that a non-maximum suppression step comes where detections on overlapping sub-windows are eliminated. As the number of feasible sub-windows in even middling sized image datasets is very large, the classifier is usually learned on only a subset of the windows. This circumvent the computational complexity and difficulty of dealing with the entire set of sub-windows , however, this paper address that, it leads to sub-optimal detector performance. Specially , the main offering of this paper is the initiation of a new method, Max-Margin object detection (MMOD), for understanding how to detect objects in images. This method does not execute any sub sampling, but instead optimizes overall sub-windows. MMOD is used to enhance any object detection method which is linear in the learned parameters, such as Histogram of Oriented Gradient (HOG) or bag-of-visual-word models. Using this strategy we manifest substantial performance gains in publicly available datasets. We represent that a single firm HOG filter can overcome a set-of-the-art deformable part model on the object detection data set and benchmark when the HOG filter is assimilated via MMOD.

Keywords: Python, Open CV component, video surveillance, detection, tracking, moving images, object detection.

I.INTRODUCTION

Nowadays, most of the living locality parks, metro stations, streets, shopping malls, schools and banks are supervise by video surveillance systems. accordingly, the researchers has been concentrating on moving object detection and tracking. These system predominantly comprise an breakthrough component for motion detection, object recognition, tracking, performance learning ,video retrieval. The technological advancement of cameras and computers used for recording and scrutinizing the video leads the requirement of automatic video scrutiny. But the fully automated surveillance systems are still deficient, So many research work has been done in this emanating field[4].

This paper addresses the real time object detection and tracking which are predominant and challenging function in many computer vision applications such as video surveillance, robot navigation, vehicle navigation & blind man navigation system. Object detection includes detecting the object in a succession of frames. Every tracking technique needs object detection mechanism either in each frame or in the video sequence.

Moving (mobilise) object tracking in real time basis is the process of locating an object or multiple objects using either static or dynamic webcam. Video surveillance makes it feasible that the computer can involuntarily locate, perceive and track the changes by the automatic examination of images in an order which is recorded by cameras in natural circumstances. Each and every application needs disparate requirements to use video processing by systematic manner. However, the common first step between all applications is finding regions that related to moving object. Motion detection is a difficult problem because of changes in scenes [4].

The accessibility and availability of high power computers, high quality and low cost camera increases interest in object tracking algorithms. Three key steps for video analysis are: Detection of moving Objects, Tracking of that objects from frame to frame, Analysis of Object tracking to recognize their performance. The main application areas of object detection and tracking are: Motion based recognition, automated surveillance, video indexing, traffic monitoring, vehicle navigation and etc

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3.3.6 - h-index of the Institutional Publications during the year. (Based on Scopus/ Web of Science)

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2	Mechanical Engg.	182-183

3.3.6 - h-index of the Institutional Publications during the year. (based on Scopus/ Web of Science)

Title of Paper	Name of Author	Title of the Journal	Year of Publication	h - Index	Institutional affiliation as mentioned in the publication	No. of citations excluding self citations
Mechanical Department						
To Examine the Effect of Inventory Dependent Demand and Time Dependent Holding Cost on Inventory	Dr. P. S. Ardak	International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075 (SCOPUS)	2020	5.0	-	4

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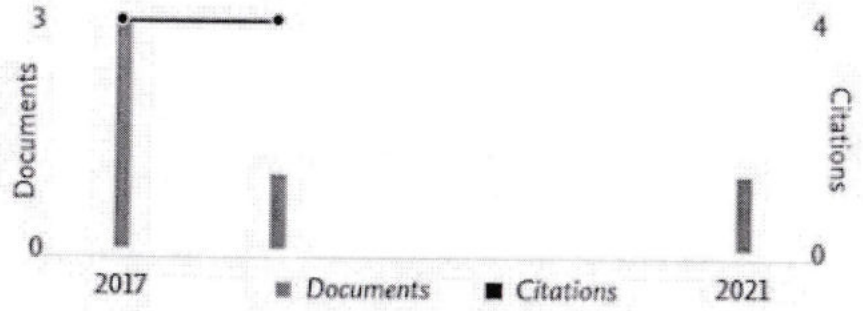
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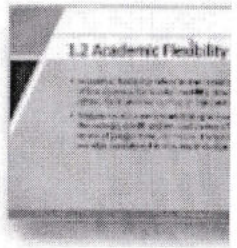
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International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075, Volume-8, Issue-11S2, September 2019

To Examine the Effect of Inventory Dependent Demand and Time Dependent Holding Cost on Inventory

Pankaj S. Ardak, Atul B. Borade

Abstract: ***Inventory models are effectively used as control tool in most of the inventory control tools. The current study deals with the inventory production model for non momentary deteriorating items. To developed the mathematical model holding cost is considered as time and demand dependent. The items does not start to deteriorate as soon as it enters into the stock. During stock buildup time demand is assumed to be inventory dependent. Optimum solution has been find out by using differential calculus. Results indicate that total inventory has a major influence of inventory consumption parameter.***

KEYWORDS: ***EPQ, holding cost , Inventory and time dependent consumption rate.***

I. INTRODUCTION

Inventory systems has been studied by many of the researchers by considering different assumptions. Buying capacity of customer increases by the large stock present in the store. Deterioration is common in perishable items like food, milk, meat and flowers. To maintain the quality of such items need special storing arrangement which cause rise in holding cost. As such items deteriorates with time in such condition holding cost vary with time. Ardak *et. al.* (2017) developed EPQ model for perishable items which required special storing arrangements.[1,2&3] Items with defect has been analysed without considering inventory carrying cost of imperfect items to developed an EPQ model. [4]. In actual production process the quality of the product depends upon various factors. This can affect the quality of the product hence it is not possible that always good quality items will get produced[5]. In perishable items deterioration start with time. The inventory model with partial backloging has been studied for constant demand.[6]. Rosenblatt and Lee studied inventory model for imperfect production process.[7]. The items deteriorate at higher rate when process change its state., [8]. The total cost is effected by the demand and quality loss function [9]. The optimal production run time get affected by cost of rework, scrap and rate of defective items[10]. Demand was dependent on stock, cusomer and credit policy [11,12]. Gede considered stochastic machine unavailability and price- dependent demand to analysed production inventory model[13]. The influence of demand and cost on EPQ has been analysed by Jinn[14]. Set up cost and process quality had a important role in production inventory model [15].

With time perishable items deteriorates, hence in the present study holding cost is considered as time dependent. During stock buildup time demand is assumed to be inventory dependent. Several sections of the paper is divided as following . Mathematical model formulation is in third section.. The numerical and sensitivity analysis had been discussed in last.

The Present model has been developed by considering following Assumptions:-

1. Constant production rate wich is assumed to be greater than Demand.
2. During stock buildup time demand is inventory dependent

Revised Manuscript Received on September 15, 2019.
Pankaj S. Ardak: Assit. Prof., P.R. Pote College of Engineering and Management ,Amravati India
Dr. Atul B. Borade: Professor, Jawaharlal Darda Institute of Technology, Yavatmal India

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

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Session 2019-20

3.3.7 - Faculty participation in Seminars/Conferences and Symposia during the year: 2019-20

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3.3.7 Faculty participation in Seminars/Conferences and Symposia during the year: 2019-20

No. of Faculty	International level	National level	State level	Local level
Name of Department: First Year Engineering				
Attended Seminar/ Workshops	00	00	00	16
Presented Papers	01	02	00	00
Resource	00	00	00	
Total	**01**	**02**	**00**	**16**
Name of Department: Mechanical Engineering				
Attended Seminar/ Workshops	00	30	00	00
Presented Papers	4	28	00	00
Resource	Nil	00	00	00
Total	**4**	**58**	**00**	**00**
Name of Department: Electrical Engineering				
Attended Seminar/ Workshops	00	00	00	40
Presented Papers	18	02	00	00
Resource	00	00	00	00
Total	**18**	**02**	**00**	**40**
Name of Department: Civil Engineering				
Attended Seminar/ Workshops	00	99	00	00
Presented Papers	00	00	00	00
Resource	00	00	00	00
Total	**00**	**99**	**00**	**00**
Name of Department: Electronics & Telecommunication Engineering				
Attended Seminar/ Workshops	00	00	32	00
Presented Papers	16	00	00	00
Resource	00	00	00	00
Total	**16**	**00**	**32**	**00**
Name of Department: MCA				
Attended Seminar/ Workshops	00	04	00	00
Presented Papers	00	00	00	00
Resource	00	00	00	00
Total	**00**	**04**	**00**	00
Name of Department: MBA				
Attended Seminar/ Workshops	00	00	00	00
Presented Papers	02	00	00	00
Resource	00	00	00	00
Total	**02**	**00**	00	00

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participated/presented a research paper entitled [illegible]

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National Conference on Recent Advances in Physical and Mathematical Sciences organized by Shri Shivaji College of Arts, Commerce and Science, Akola on January 18, 2020.

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M M Zafar

Mr. M M Zafar
National Technical Manager,
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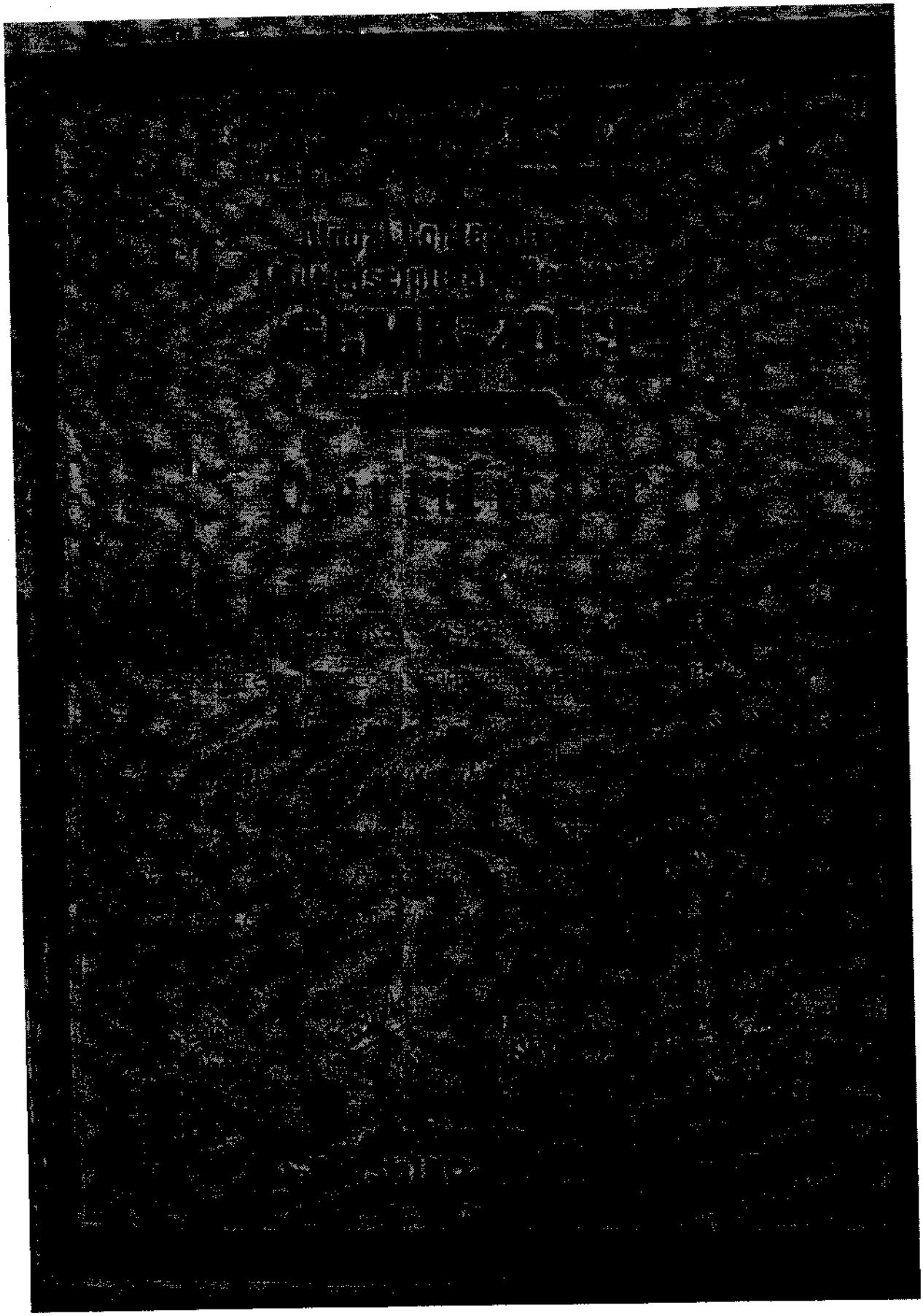
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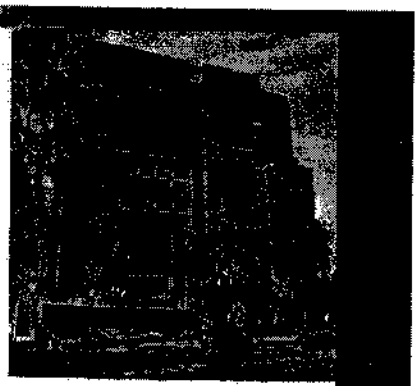
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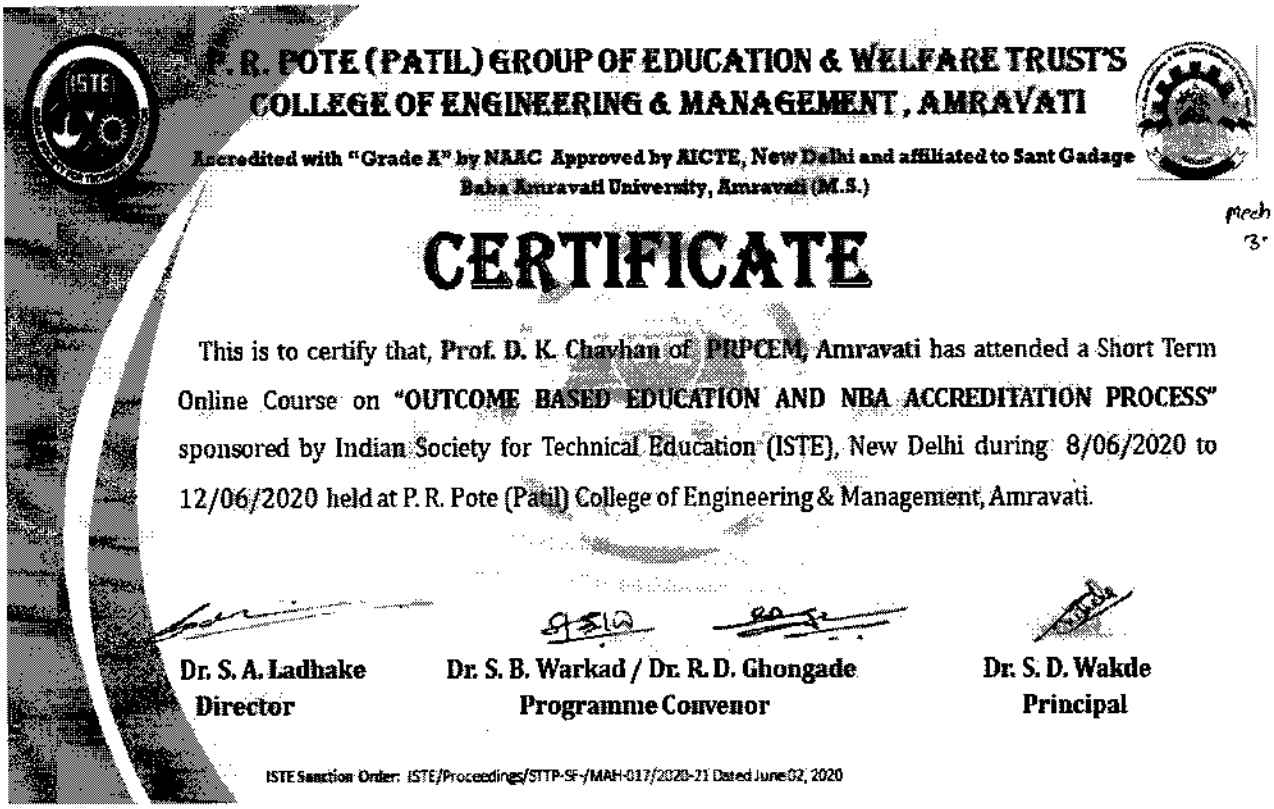
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This is to certify that

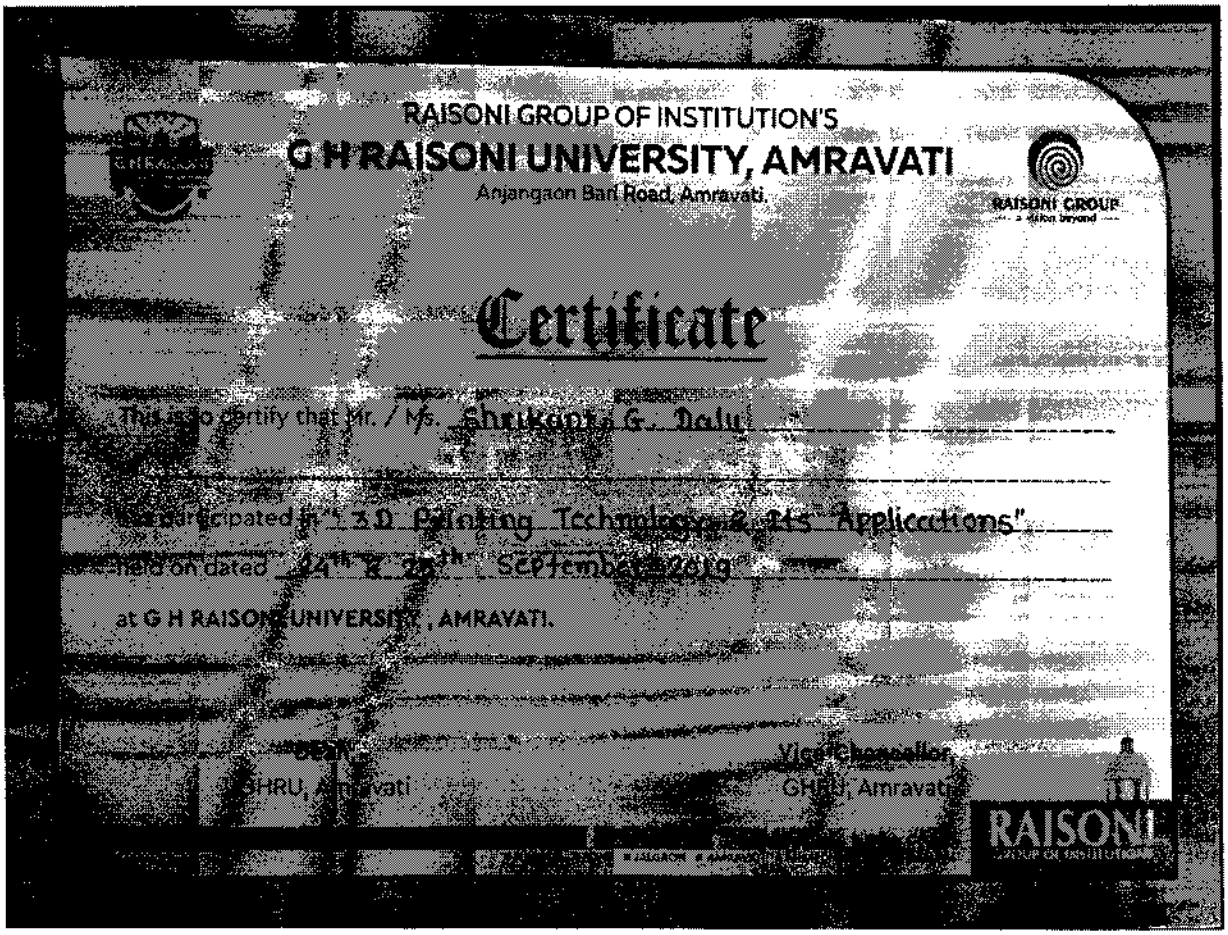
Prof. D.K. Chavhan, PR POTE COEM, Amt.

has participated in AICTE sponsored one week short term training program "Advances in Internal Combustion Engines and Fuels", conducted from 14th to 19th October, 2019 organized by Department of Mechanical Engineering, P.R.M.I.T. & R, Badnera- Amravati.

Dr. A. P. Bodkhe	Dr. D. S. Ingole	Dr. N. W. Kale
Principal	Convener	Course-Co-ordinator
P.R.M.I.T. & R. Badnera	HOD, Mech.Engg.	



3.



RAISONI GROUP OF INSTITUTION'S

G H RAISONI UNIVERSITY, AMRAVATI

Anjangaon Bari Road, Amravati.

RAISONI GROUP

Certificate

This is to certify that Mr. / Ms. Shrikant G. Dalu

has participated in "3D Printing Technology & its Applications"

held on dated 24th & 25th September 2019

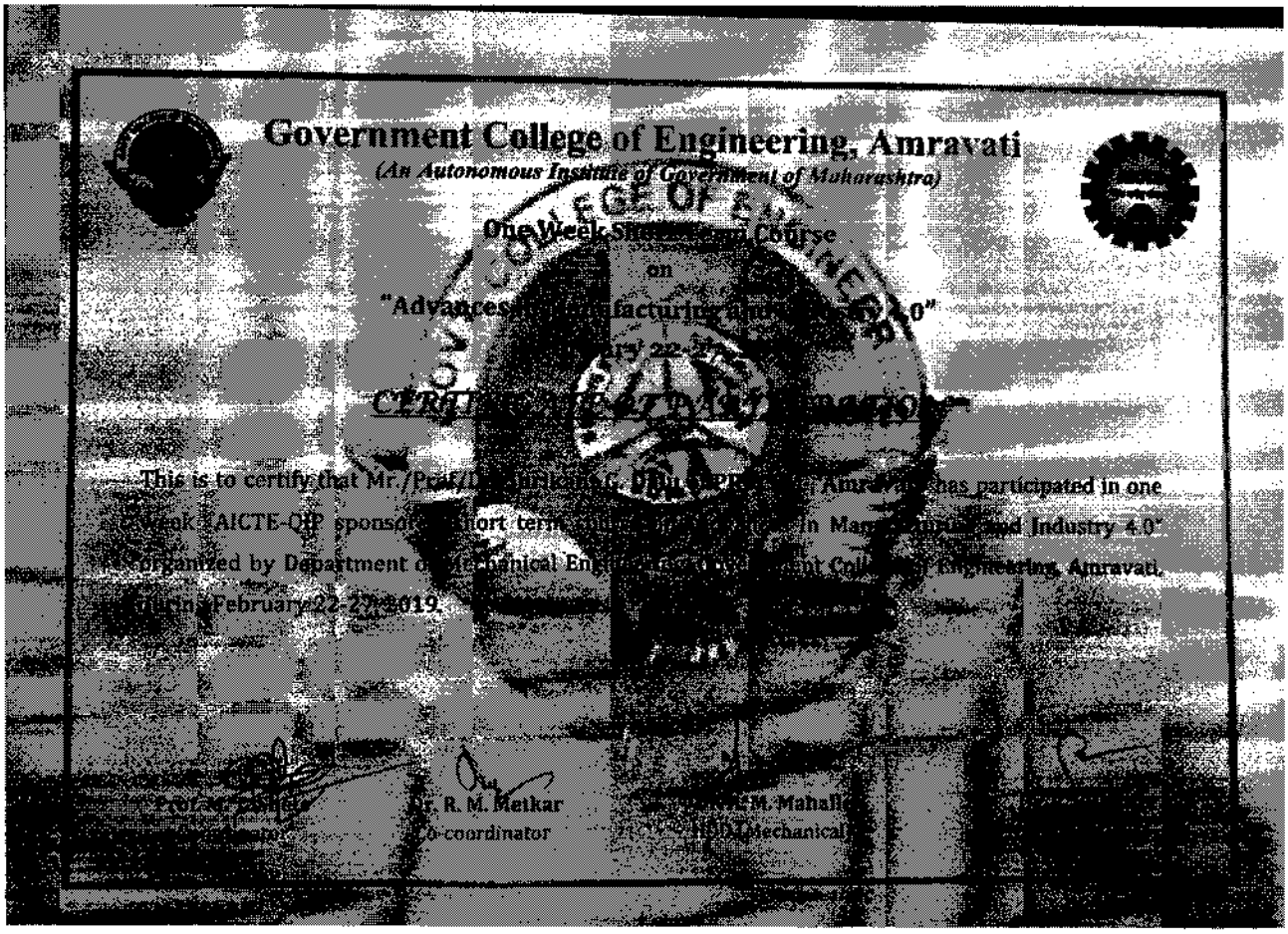
at G H RAISONI UNIVERSITY, AMRAVATI.

Dean
GHRU, Amravati

Vice Chancellor
GHRU, Amravati

RAISONI
GROUP OF INSTITUTION

4.



Government College of Engineering, Amravati

(An Autonomous Institute of Government of Maharashtra)

One Week Short Term Course

on

"Advanced Manufacturing and Industry 4.0"

February 22-27, 2019

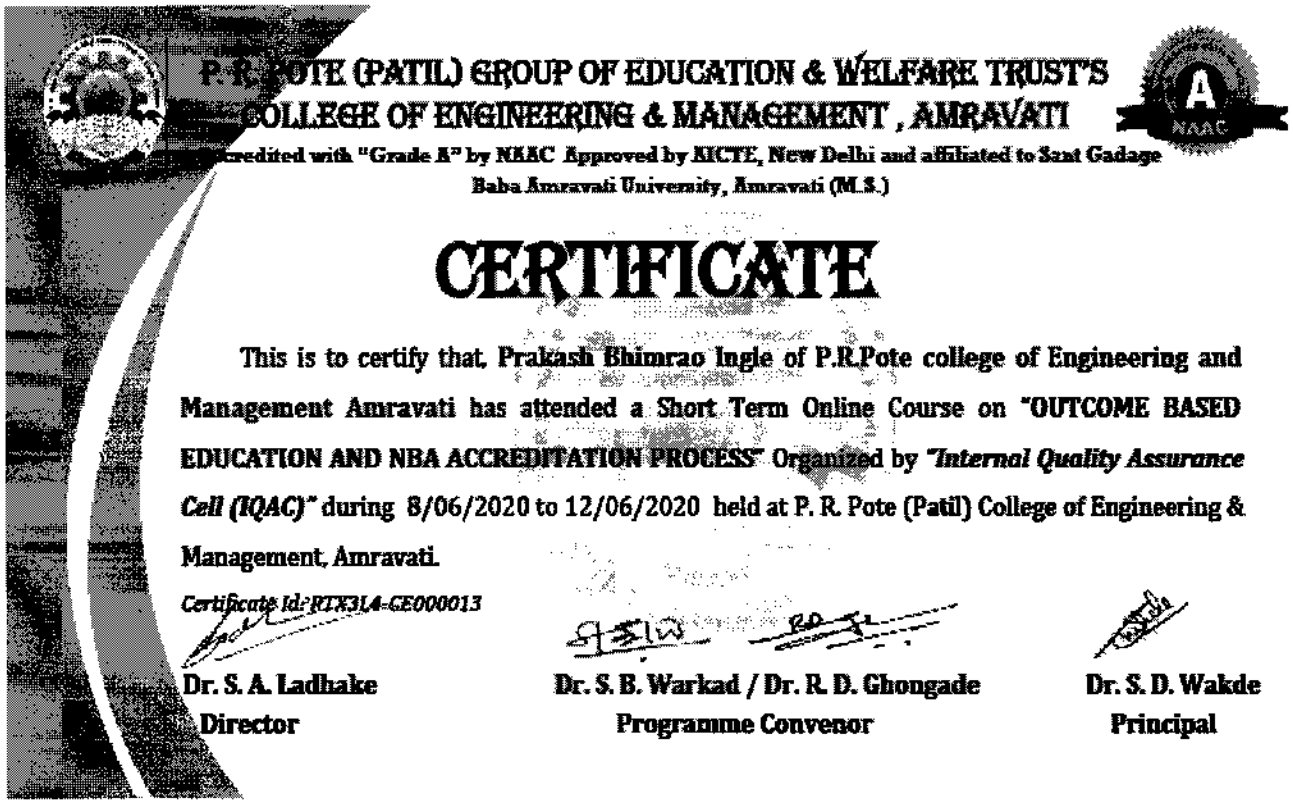
CERTIFICATE OF PARTICIPATION

This is to certify that Mr./Prof./Dr. [illegible] has participated in one Week AICTE-QIP sponsored short term course on "Advanced Manufacturing and Industry 4.0" organized by Department of Mechanical Engineering, Government College of Engineering, Amravati, during February 22-27, 2019.

Dr. R. M. Metkar
Co-ordinator

[illegible] M. Mahalle
HOD (Mechanical)

5.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, Prakash Bhimrao Ingle of P.R.Pote college of Engineering and Management Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" Organized by *"Internal Quality Assurance Cell (IQAC)"* during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate Id: RTX3L4-CE000013

Dr. S. A. Ladhake	Dr. S. B. Warkad / Dr. R. D. Ghongade	Dr. S. D. Wakde
Director	Programme Convenor	Principal

6.



महर्षी कर्वे
स्त्री शिक्षण
संस्था

Maharshi Karve Stree Shikshan Samstha's
CUMMINS COLLEGE OF
ENGINEERING FOR WOMEN NAGPUR

ASM INTERNATIONAL Pune Chapter | ISHRAE Nagpur Chapter

CERTIFICATE OF PARTICIPATION

This is to certify that

PRAKASH BHIMRAO INGLE

Of P.R.POTE COLLEGE OF ENGINEERING AND MANAGEMENT AMRAVATI

has participated in **Online Faculty Development Program on Renewable Energy Sources: A Way Ahead**
organised by Department of Mechanical Engineering in association with
ASM International (American Society of Materials) Pune Chapter And
ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) Nagpur Chapter
during 15 May 2020 to 21 May 2020.

PRASANNA MAHANKAR	MR. UDAYAN PATHAK	MR. AJAY PANDEY	DR. B. P. JOSHI
Convener, FDP	Chairman, ASM International Pune Chapter	President, ISHRAE Nagpur Chapter	Principal, CCOEW Nagpur

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7.

Shri Vile Parle Kelavani Mandal's
Dwarkadas J. Sanghvi College of Engineering
Vile Parle (West), Mumbai - 400056.
(AUTONOMOUS COLLEGE AFFILIATED TO THE UNIVERSITY OF MUMBAI)
NAAC ACCREDITED WITH "A" GRADE (CGPA: 3.18)

Department of Production Engineering

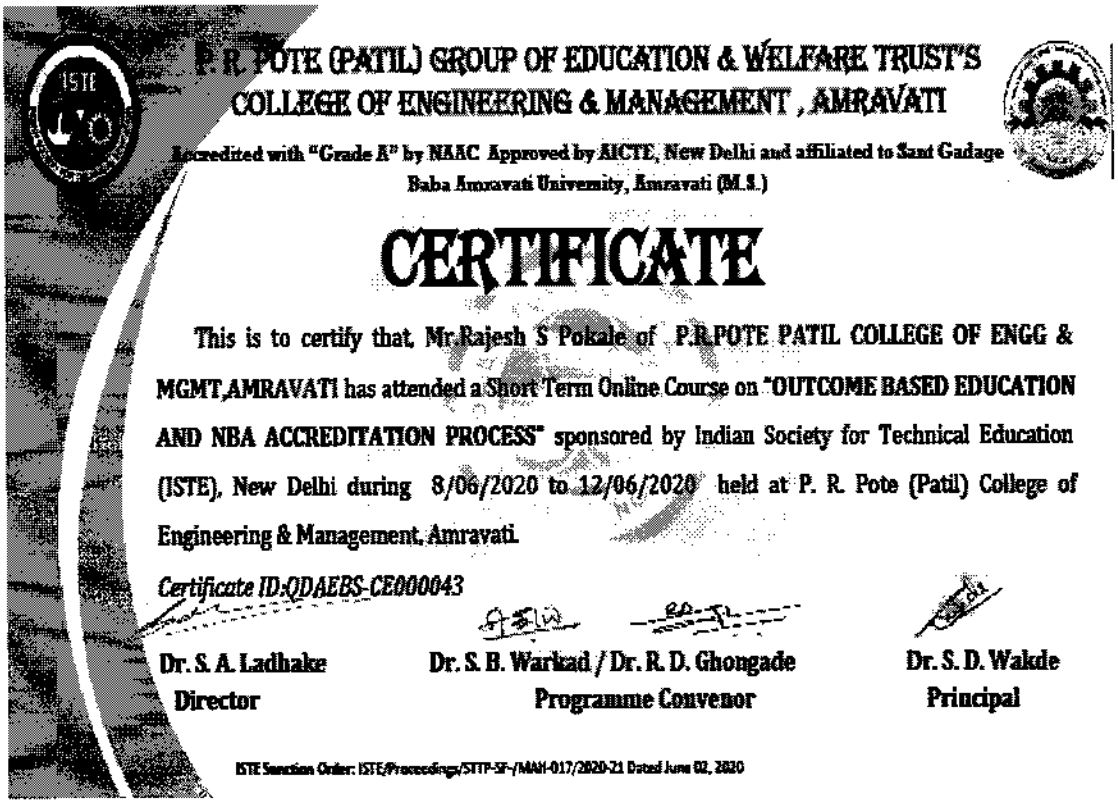
FACULTY DEVELOPMENT PROGRAM (FDP) on
"A Journey into the Manufacturing Sector in India in view of Industry 4.0 practices and COVID-19"

CERTIFICATE OF APPRECIATION

This is to certify that Dr./Mr./Ms. Rajesh S Pokale
has attended the FDP on **"A Journey into the Manufacturing Sector in India in view of Industry 4.0 practices and COVID-19"** and has successfully completed the evaluation. The FDP was delivered online from 9th to 13th June, 2020.

Dr. Atul Dhale	Dr. Manali Godse	Dr. Ashish Daptardar	Dr. Hari Vasudevan
Coordinator & Professor	Vice-Principal (Acad)	Vice-Principal (Admin)	Convenor & Principal
Dept of Prod. Engg., DJSCE	DJSCE	DJSCE	DJSCE

8.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

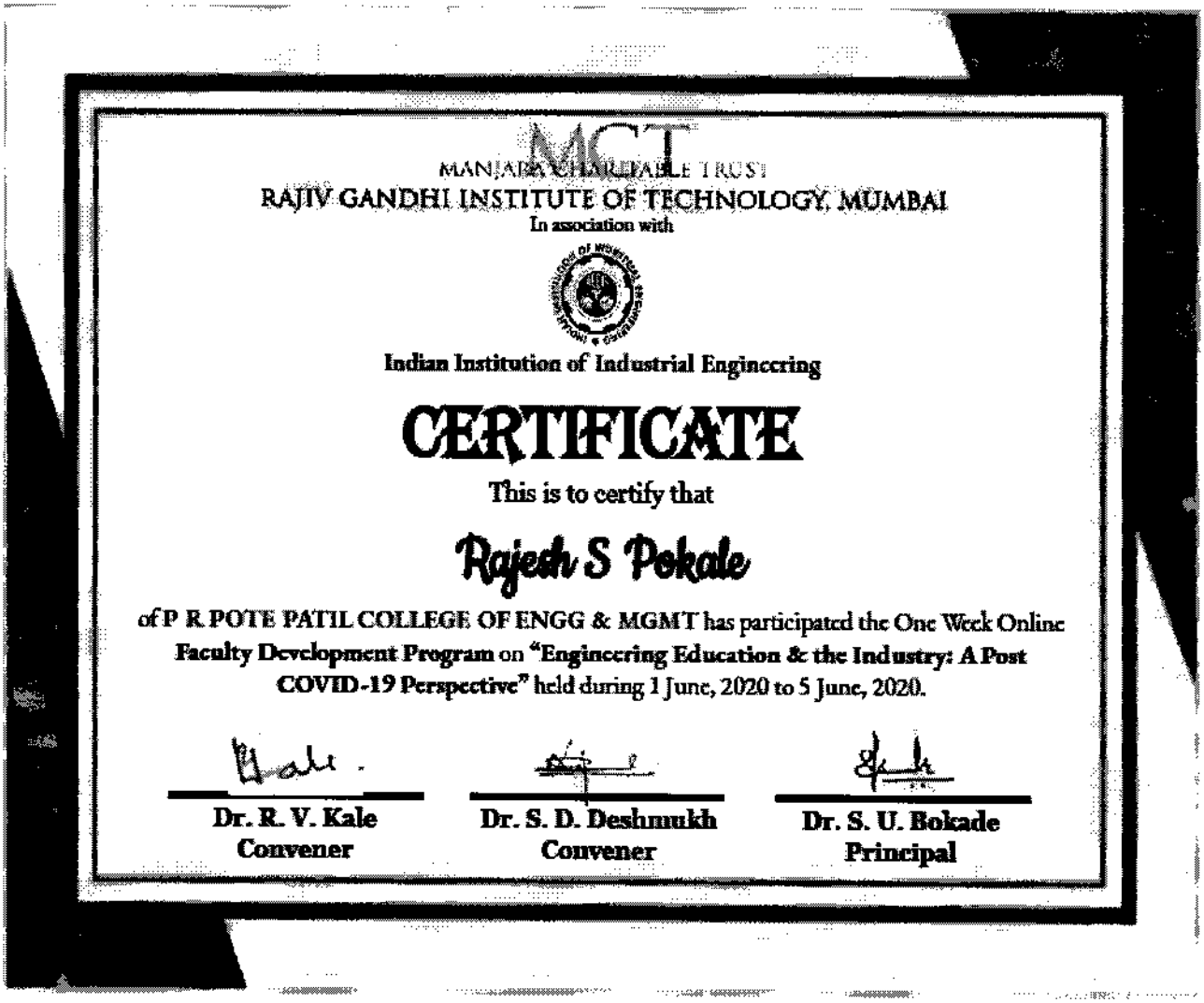
This is to certify that Mr.Rajesh S Pokale of P.R.POTE PATIL COLLEGE OF ENGG & MGMT,AMRAVATI has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:QDAEBS-CE000043

Dr. S. A. Ladhake	Dr. S. B. Warkad / Dr. R. D. Ghongade	Dr. S. D. Wakde
Director	Programme Convenor	Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

9.



MANJARA CHARITABLE TRUST

RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI

In association with

Indian Institution of Industrial Engineering

CERTIFICATE

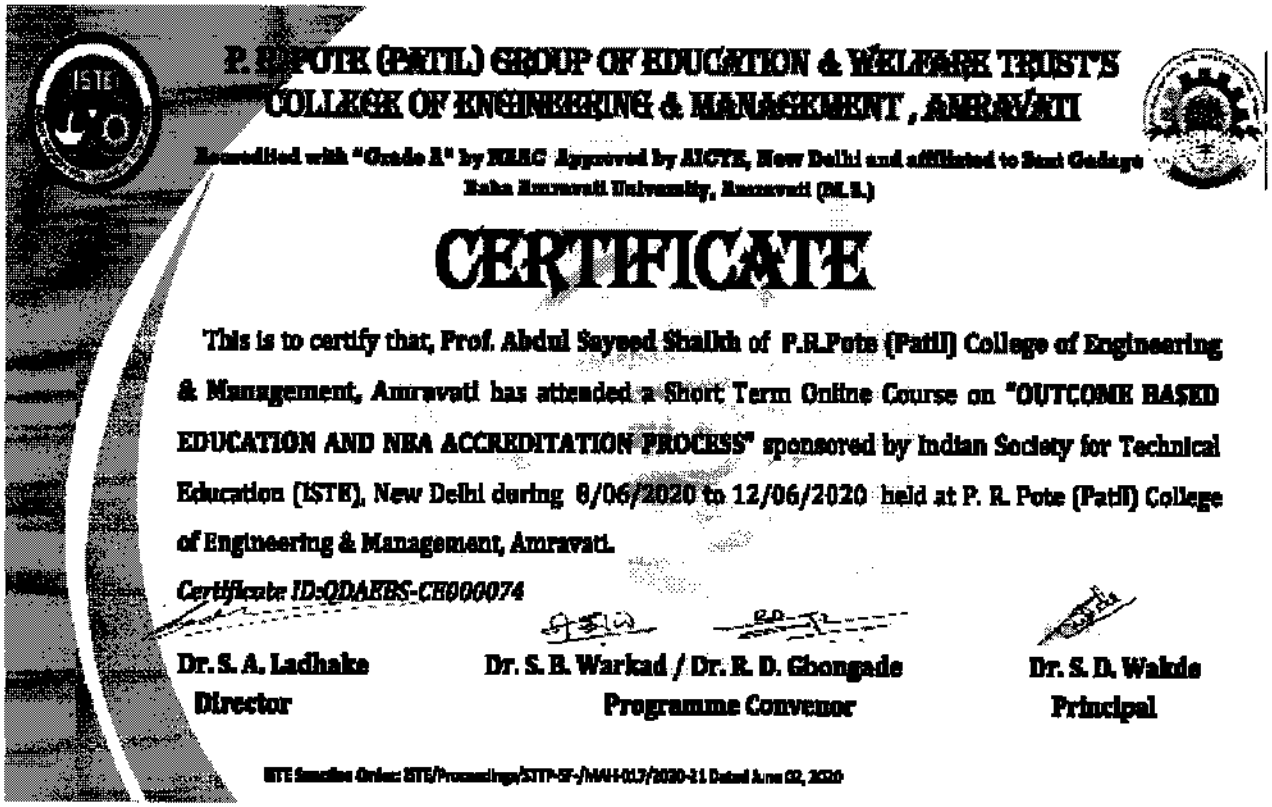
This is to certify that

Rajesh S Pokale

of P R POTE PATIL COLLEGE OF ENGG & MGMT has participated the One Week Online **Faculty Development Program** on **"Engineering Education & the Industry: A Post COVID-19 Perspective"** held during 1 June, 2020 to 5 June, 2020.

Dr. R. V. Kale	Dr. S. D. Deshmukh	Dr. S. U. Bokade
Convener	Convener	Principal

10.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, Prof. Abdul Sayeed Shaikh of P.R.Pote (Patil) College of Engineering & Management, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:QDAEBS-CH000074

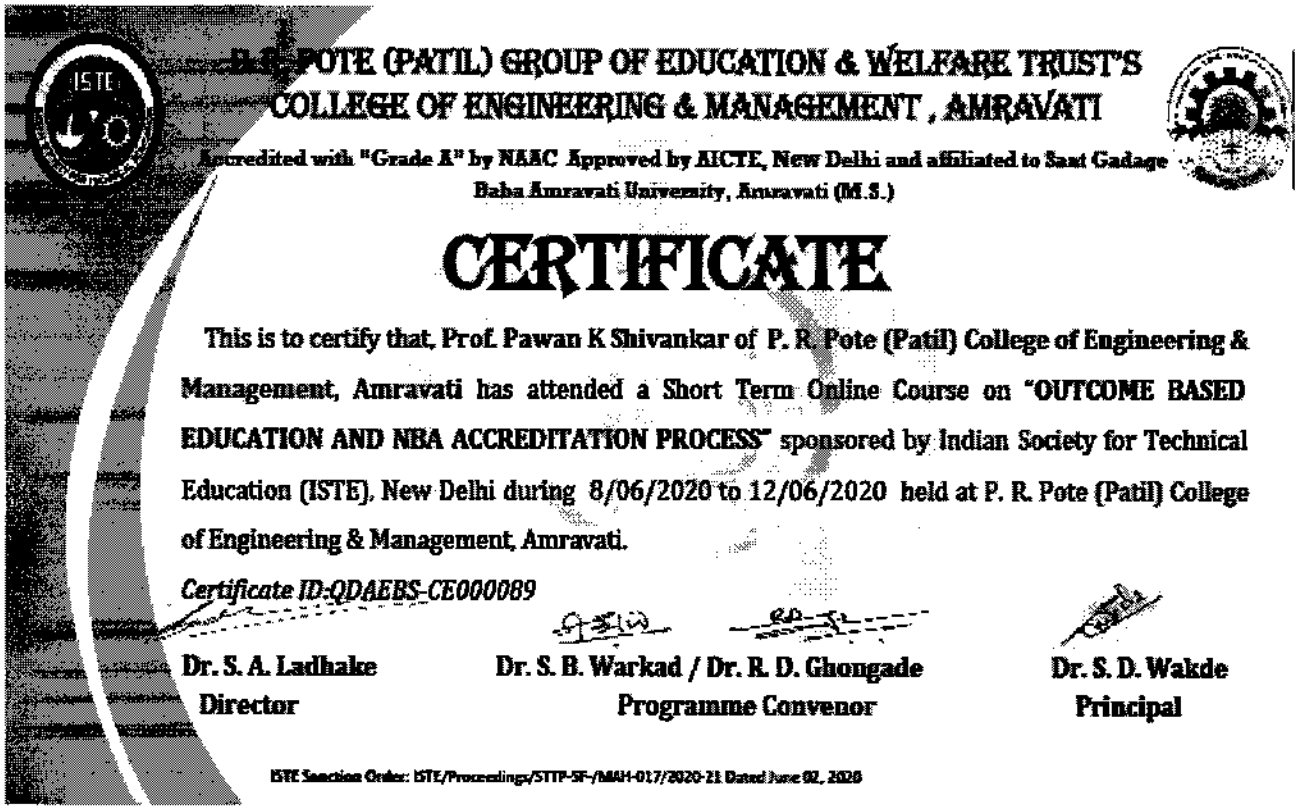
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

11.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

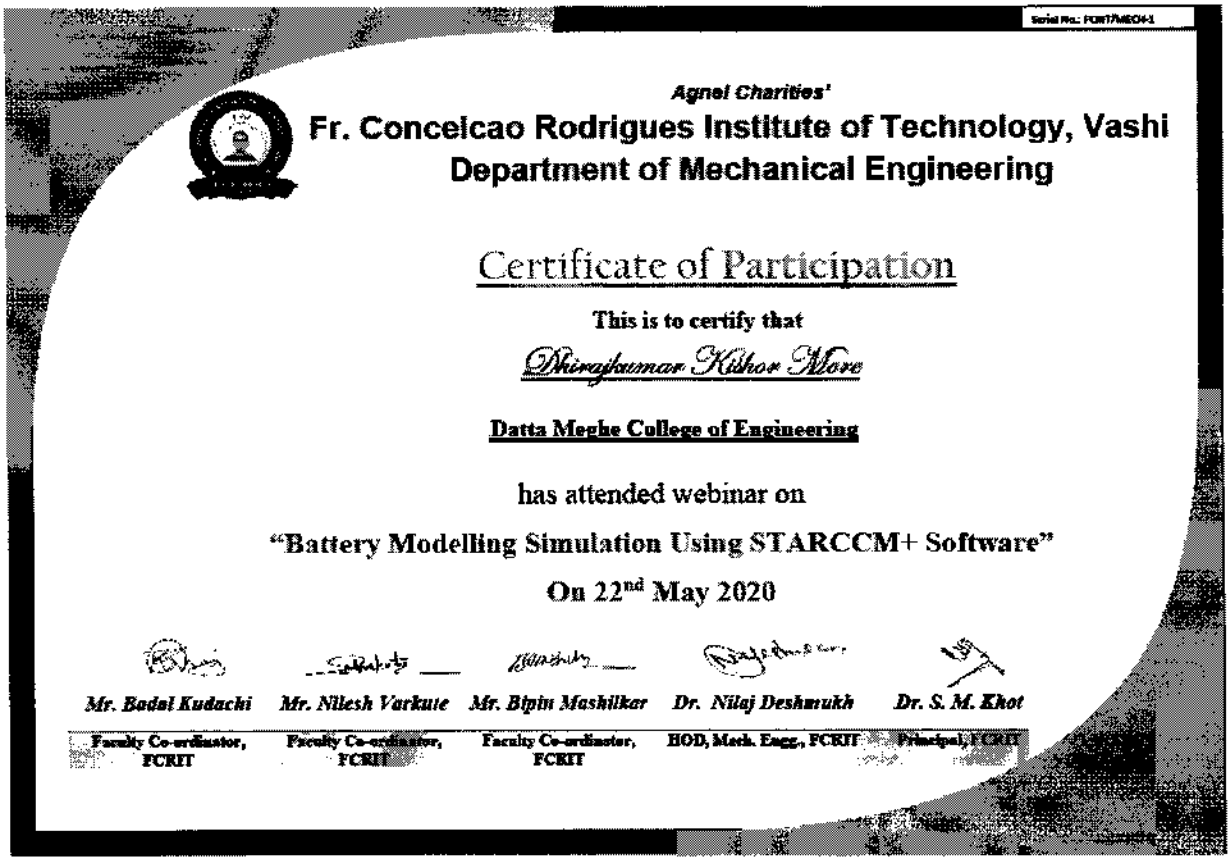
This is to certify that, Prof. Pawan K Shivankar of P. R. Pote (Patil) College of Engineering & Management, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID-QDAEBS-CE000089

Dr. S. A. Ladhake	Dr. S. B. Warkad / Dr. R. D. Ghongade	Dr. S. D. Wakde
Director	Programme Convenor	Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

12.



Agnel Charities'

Fr. Conceicao Rodrigues Institute of Technology, Vashi

Department of Mechanical Engineering

Certificate of Participation

This is to certify that

Shivajikumar Kishor More

Datta Meghe College of Engineering

has attended webinar on

"Battery Modelling Simulation Using STARCCM+ Software"

On 22nd May 2020

Mr. Badal Kudachi	Mr. Nilesh Varkute	Mr. Bipin Mashilkar	Dr. Nilaj Deshmukh	Dr. S. M. Khot
Faculty Co-ordinator, FCRIT	Faculty Co-ordinator, FCRIT	Faculty Co-ordinator, FCRIT	HOD, Mech. Engg., FCRIT	Principal, FCRIT

13.



महर्षी कर्वे
स्त्री शिक्षण
संस्था

Maharshi Karve Stree Shikshan Samstha's
CUMMINS COLLEGE OF
ENGINEERING FOR WOMEN NAGPUR

ASM INTERNATIONAL Pune Chapter ISHRAE
Nagpur Chapter

CERTIFICATE OF PARTICIPATION

This is to certify that

PROF. PAWAN KISHOR SHIVANKAR

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

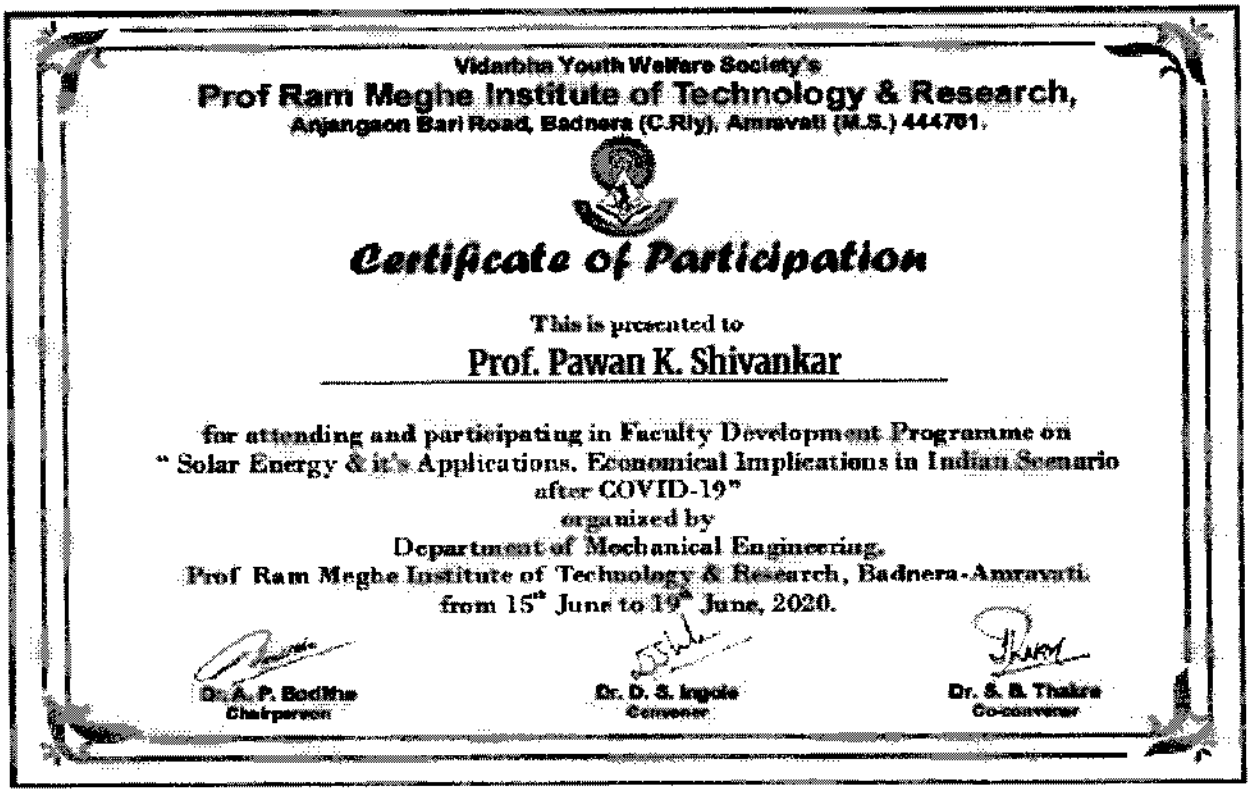
has participated in Online Faculty Development Program on Renewable Energy Sources: A Way Ahead
organised by Department of Mechanical Engineering in association with
ASM International (American Society of Materials) Pune Chapter And
ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) Nagpur Chapter
during 15 May 2020 to 21 May 2020.

PRASANNA MAHANKAR	MR. UDAYAN PATHAK	MR. AJAY PANDEY	DR. B. P. JOSHI
Convener, FDP	Chairman, ASM International Pune Chapter	President, ISHRAE Nagpur Chapter	Principal, CCOEW Nagpur

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14.



Vidarbha Youth Welfare Society's

Prof Ram Meghe Institute of Technology & Research,

Anjangaon Bari Road, Badnera (C.Rly), Amravati (M.S.) 444701.

Certificate of Participation

This is presented to

Prof. Pawan K. Shivankar

for attending and participating in Faculty Development Programme on
" Solar Energy & it's Applications, Economical Implications in Indian Scenario after COVID-19"
organized by
Department of Mechanical Engineering,
Prof Ram Meghe Institute of Technology & Research, Badnera-Amravati
from 15th June to 19th June, 2020.

Dr. A. P. Bodkhe
Chairperson

Dr. D. S. Ingole
Convener

Dr. S. B. Thakre
Co-convener

15.



Shri Sharda Bhavan Education Society's

Institute of Technology & Management,

VIP Road, Nanded - 431602, (MS), India.

International Online Webinar on 'Art of Online Teaching, Research Paper Writing & Patent Registration'

18 - 20 May 2020

CERTIFICATE OF PARTICIPATION

Mr.Pawan Kishor Shivankar

has participated and successfully completed an International Online Webinar on 'Art of Online Teaching, Research Paper Writing & Patent Registration' organized by SSBES' Institute of Technology & Management, Nanded held from 18 to 20 May, 2020.

Mr. M. S. Altamash	Dr. M. M. Bokare	Dr. S. B. Thorat
Convenor	Co-ordinator	Director

Certificate No. SSBESITM01290

16.



Shree Rahul Education Society's (Regd.)

SHREE L. R. TIWARI COLLEGE OF ENGINEERING

Kanakia Park, Near Commissioner's Bungalow, Mira Road (East), Thane 401107, Maharashtra

(Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai)

NAAC Accredited ISO 9001:2015 Certified

Tel. No.: 022-28120144 / 022-28130145 Email: slrtce@rahuleducation.com Website: www.slrtce.in

Rahul EDUCATION

Department of Mechanical Engineering

Certificate of Participation

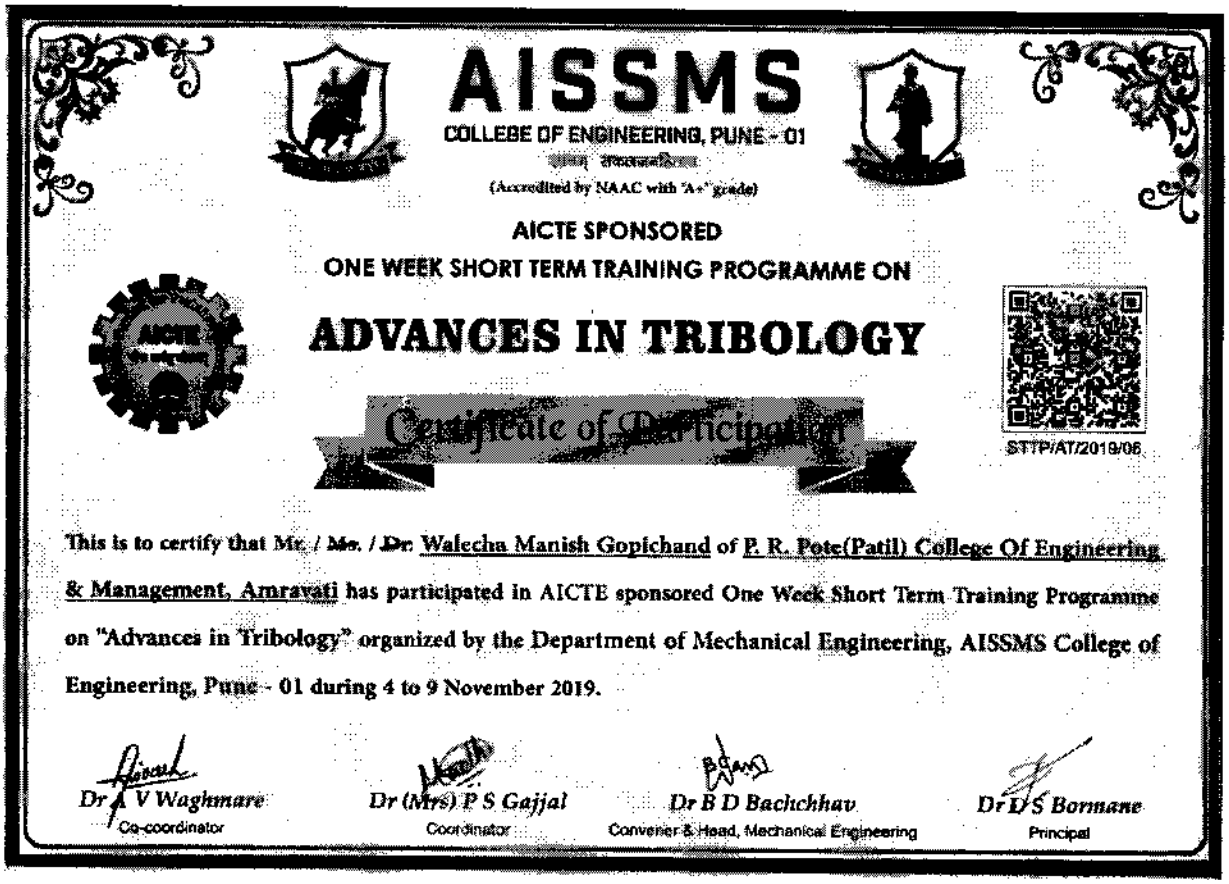
This Certificate is presented to Mr/Ms/Mrs Prof. Pawan Kishor Shivankar of P. R. Pote (Patil) College of Engineering & Management, Amravati has attended Webinar on "Application of Statistical tools and Energy Engineering" on 20th and 21st May 2020.

(Digital Signature)
Prof. Dhiraj R. Singh
HOD , Dept. of Mechanical Engineering,
SLRTCE, Mira road, Thane

(Digital Signature)
Dr. S. Ram Reddy
Principal
SLRTCE, Mira road, Thane

(Digital Signature)
Shree Rahul L. Tiwari
Secretary
Rahul Education Society

17.



AISSMS

COLLEGE OF ENGINEERING, PUNE - 01

(Accredited by NAAC with 'A+' grade)

AICTE SPONSORED

ONE WEEK SHORT TERM TRAINING PROGRAMME ON

ADVANCES IN TRIBOLOGY

Certificate of Participation

STTP/AT/2019/06

This is to certify that Mr. / ~~Ms.~~ / ~~Dr.~~ Walecha Manish Gopichand of P. R. Pote(Patil) College Of Engineering & Management, Amravati has participated in AICTE sponsored One Week Short Term Training Programme on "Advances in Tribology" organized by the Department of Mechanical Engineering, AISSMS College of Engineering, Pune - 01 during 4 to 9 November 2019.

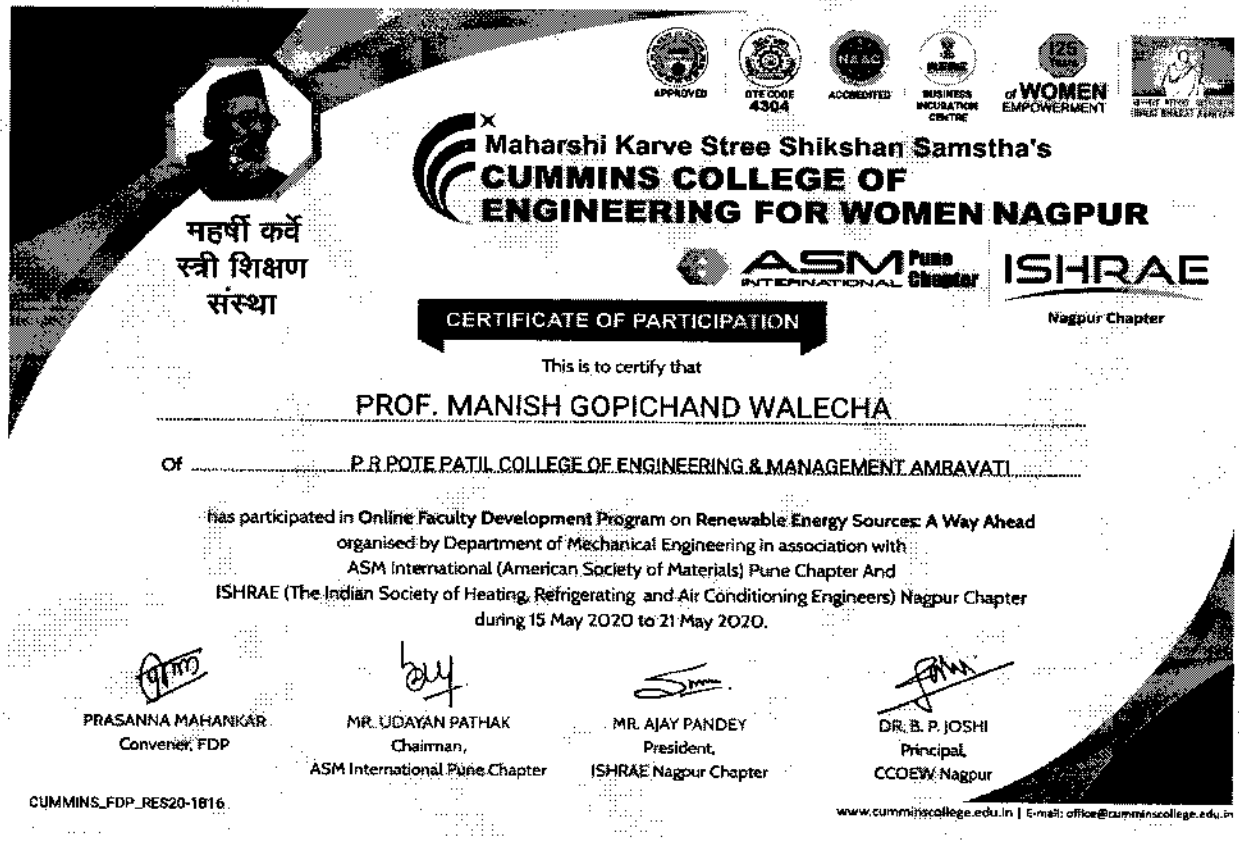
Dr A V Waghmare
Co-coordinator

Dr (Mrs) P S Gajjal
Coordinator

Dr B D Bachchhav
Convener & Head, Mechanical Engineering

Dr D S Bormane
Principal

18.



महर्षी कर्वे
स्त्री शिक्षण
संस्था

Maharshi Karve Stree Shikshan Samstha's
CUMMINS COLLEGE OF
ENGINEERING FOR WOMEN NAGPUR

ASM INTERNATIONAL Pune Chapter

ISHRAE
Nagpur Chapter

CERTIFICATE OF PARTICIPATION

This is to certify that

PROF. MANISH GOPICHAND WALECHA

Of P.R POTE PATIL COLLEGE OF ENGINEERING & MANAGEMENT AMRAVATI

has participated in Online Faculty Development Program on Renewable Energy Sources: A Way Ahead
organised by Department of Mechanical Engineering in association with
ASM International (American Society of Materials) Pune Chapter And
ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) Nagpur Chapter
during 15 May 2020 to 21 May 2020.

PRASANNA MAHANKAR
Convener, FDP

MR. UDAYAN PATHAK
Chairman,
ASM International Pune Chapter

MR. AJAY PANDEY
President,
ISHRAE Nagpur Chapter

DR. B. P. JOSHI
Principal,
CCOEW Nagpur

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19.

223

SSBT's, College of Engineering and Technology,
Bambhori, Jalgaon, Maharashtra - 425001

Included under section 2(f) and 12(B) of the UGC Act, 1956
Grade B++ (2.91) NAAC Accredited

ISO 9001:2015

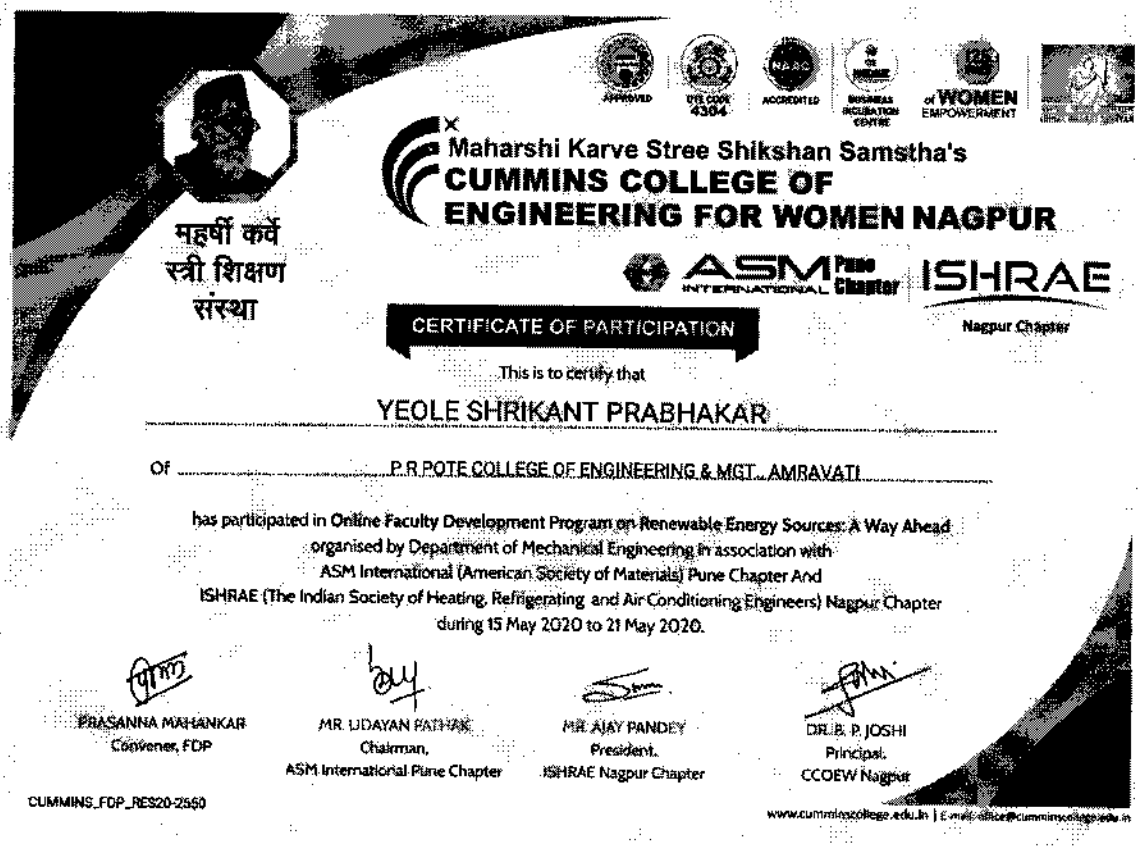
One Week Online Faculty Development Program
on
Advanced Power Converters for Industrial Applications
Certificate of Participation

This is to certify that Mr. / Ms. Prof. Manish Gopichand Walecha of P. R. Pote (Patil) College of Engineering & Management, Amravati, Maharashtra has successfully completed One Week Online Faculty Development Program (FDP) on "Advanced Power Converters for Industrial Applications" held during 28th April to 02nd May, 2020 organized by Department of Electrical Engineering, SSBT's College of Engineering & Technology, Bambhori, Jalgaon (MS), India.

Dr. P. J. Shah
Convener
Head, Electrical Engg., SSBT's COET, Jalgaon

Dr. K. S. Wani
Principal, SSBT's COET, Jalgaon

20.



महर्षी कर्वे
स्त्री शिक्षण
संस्था

Maharshi Karve Stree Shikshan Samstha's
CUMMINS COLLEGE OF
ENGINEERING FOR WOMEN NAGPUR

ASM International Pune Chapter | ISHRAE Nagpur Chapter

CERTIFICATE OF PARTICIPATION

This is to certify that

YEOLE SHRIKANT PRABHAKAR

Of P R POTE COLLEGE OF ENGINEERING & MGT., AMRAVATI

has participated in Online Faculty Development Program on Renewable Energy Sources: A Way Ahead
organised by Department of Mechanical Engineering in association with
ASM International (American Society of Materials) Pune Chapter And
ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) Nagpur Chapter
during 15 May 2020 to 21 May 2020.

PRASANNA MAHANKAR
Convener, FDP

MR. UDAYAN PATHAK
Chairman,
ASM International Pune Chapter

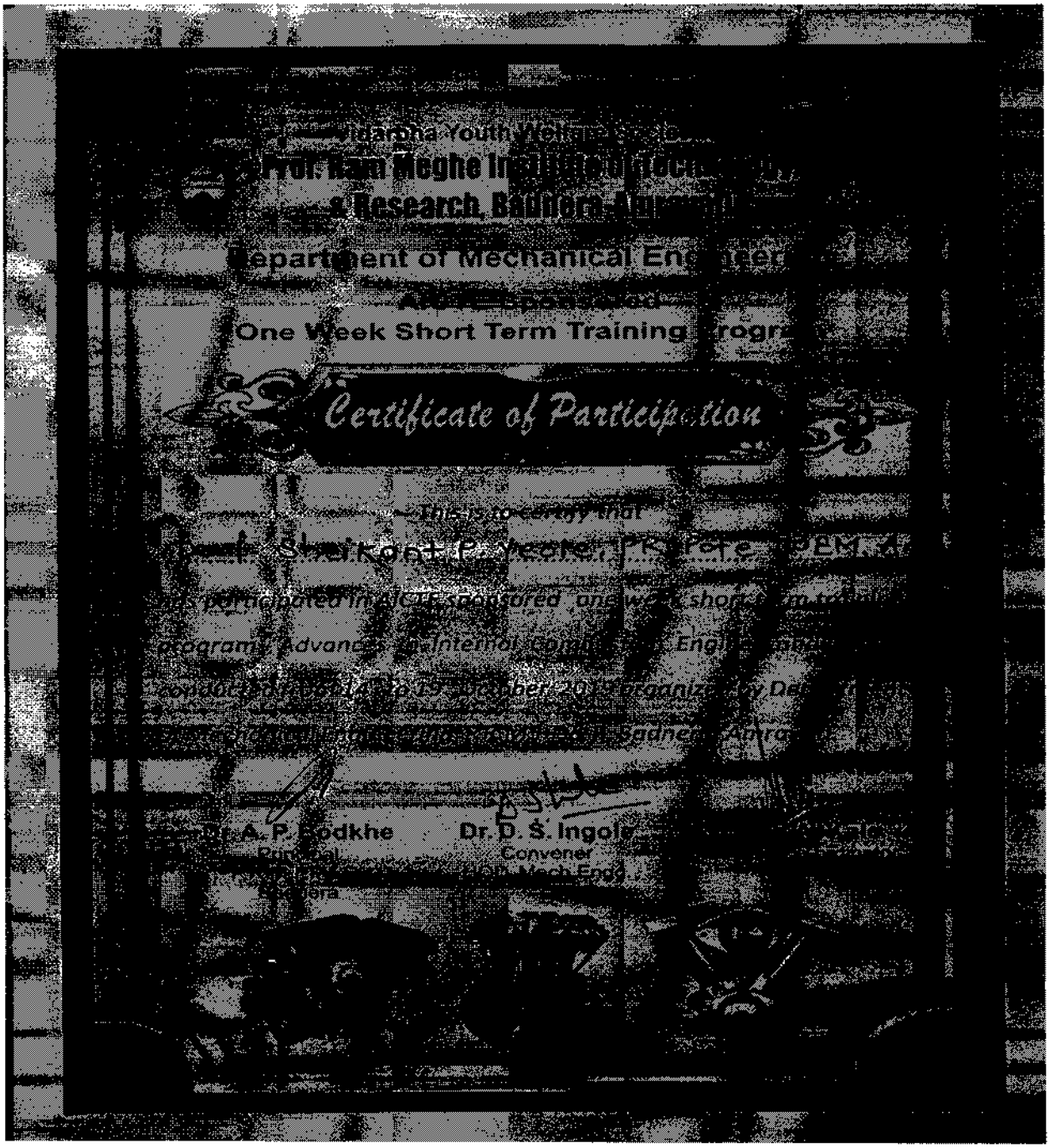
MR. AJAY PANDEY
President,
ISHRAE Nagpur Chapter

DR. B. P. JOSHI
Principal,
CCOEW Nagpur

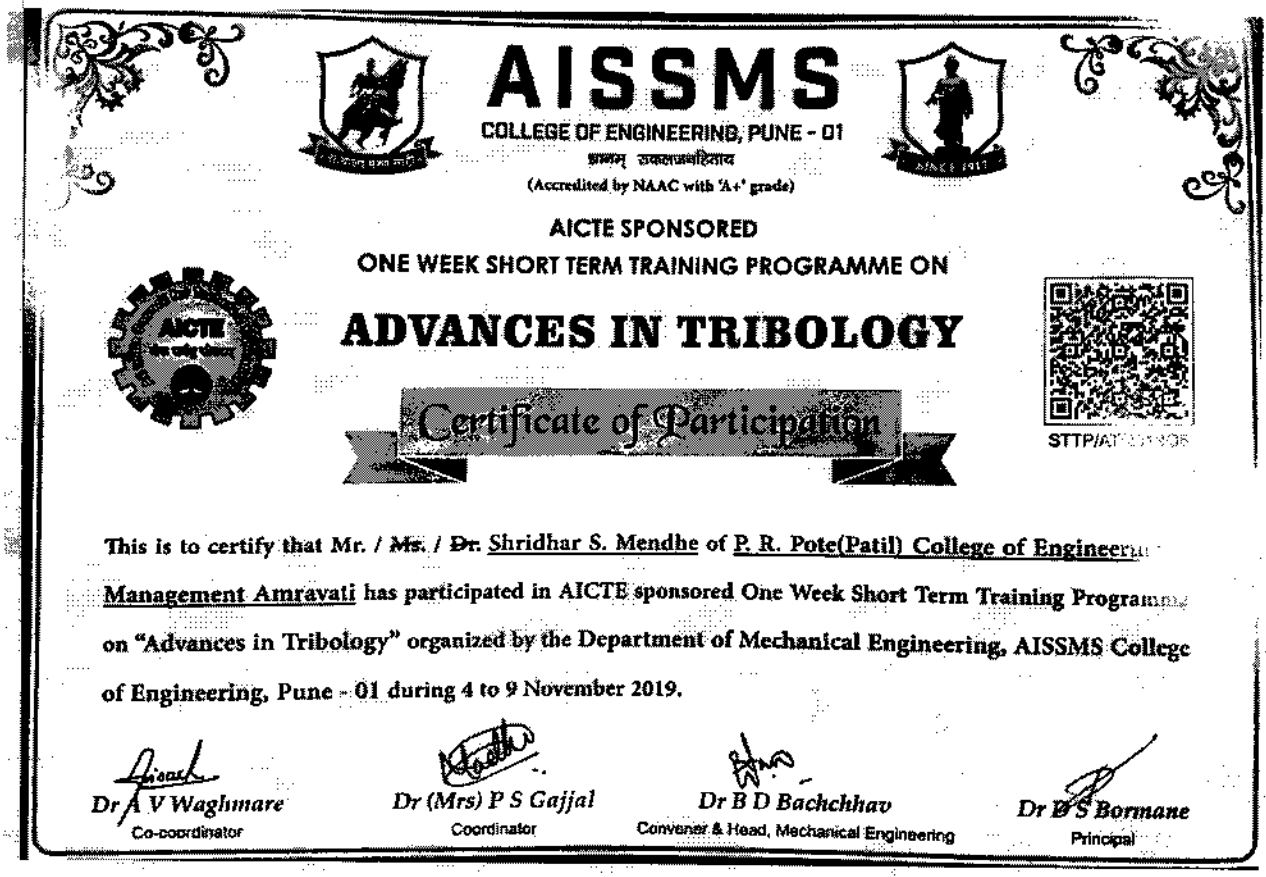
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21.


Jidarma Youth Welfare
Research, Badnera-Amra
Department of Mechanical Engineer
One Week Short Term Training
Certificate of Participation
This is to certify that
Dr. A. P. Bodkhe
Principal
Dr. D. S. Ingole
Convener
Mech Engg

22.



AISSMS

COLLEGE OF ENGINEERING, PUNE - 01

शासनम् उत्कलज्ञमहिताय

(Accredited by NAAC with 'A+' grade)

AICTE SPONSORED

ONE WEEK SHORT TERM TRAINING PROGRAMME ON

ADVANCES IN TRIBOLOGY

Certificate of Participation

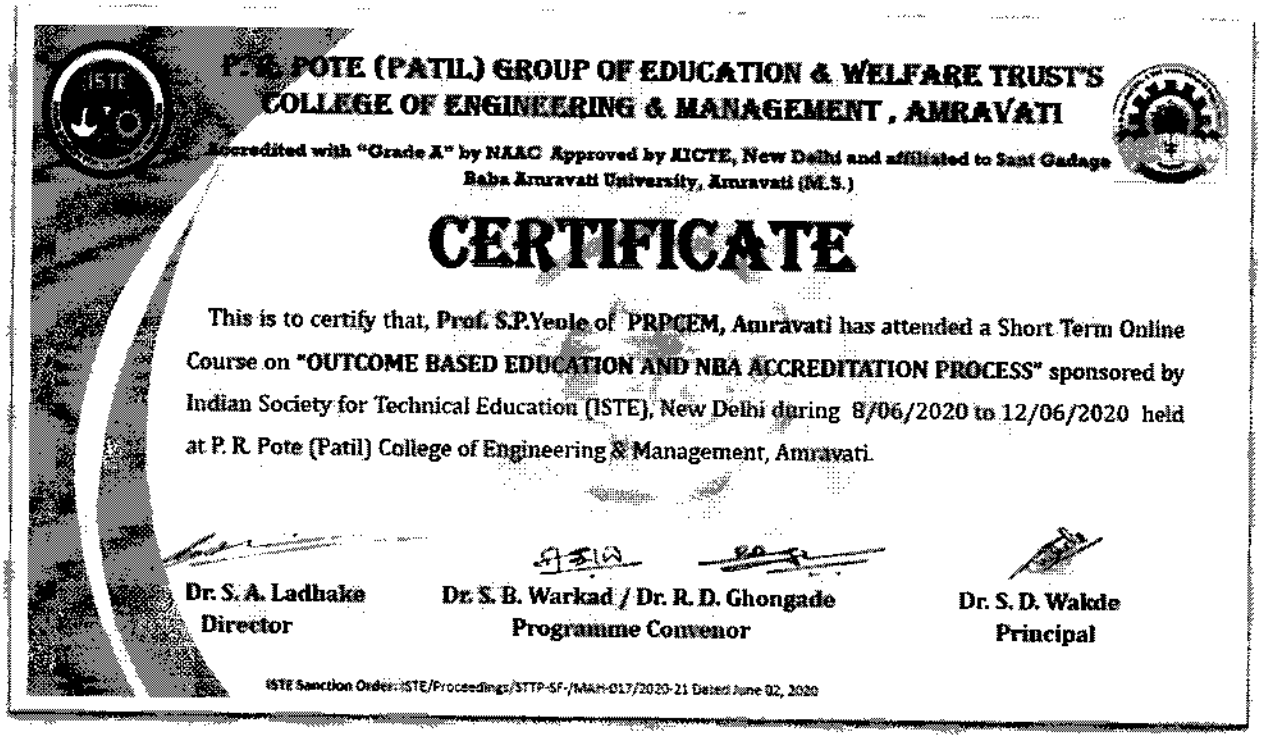
STTP/AT[illegible]

This is to certify that Mr. / ~~Ms.~~ / ~~Dr.~~ Shridhar S. Mendhe of P. R. Pote(Patil) College of Engineering Management Amravati has participated in AICTE sponsored One Week Short Term Training Programme on "Advances in Tribology" organized by the Department of Mechanical Engineering, AISSMS College of Engineering, Pune - 01 during 4 to 9 November 2019.

Dr A V Waghmare	Dr (Mrs) P S Gajjal	Dr B D Bachchhav	Dr D S Bormane
Co-coordinator	Coordinator	Convener & Head, Mechanical Engineering	Principal

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23.



P.R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, Prof. S.P.Yeole of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

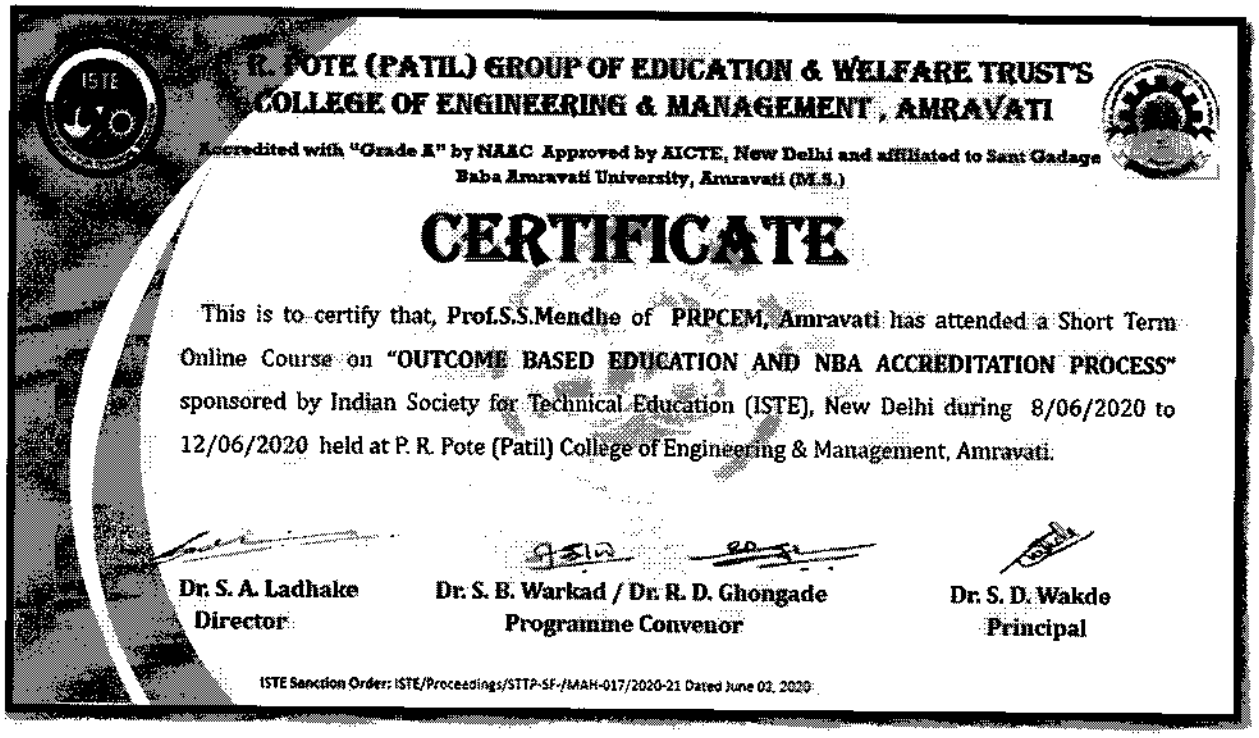
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

24.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, Prof.S.S.Mendhe of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

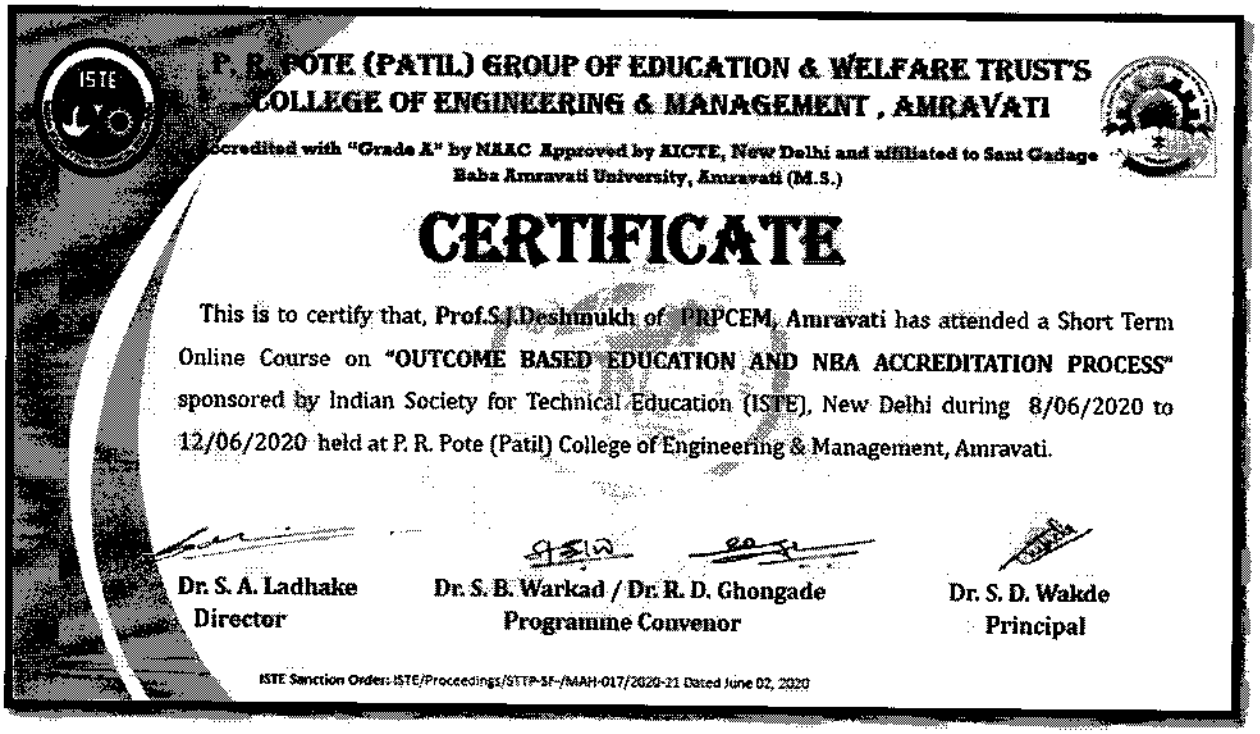
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

25.



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This is to certify that, Prof.S.J.Deshmukh of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

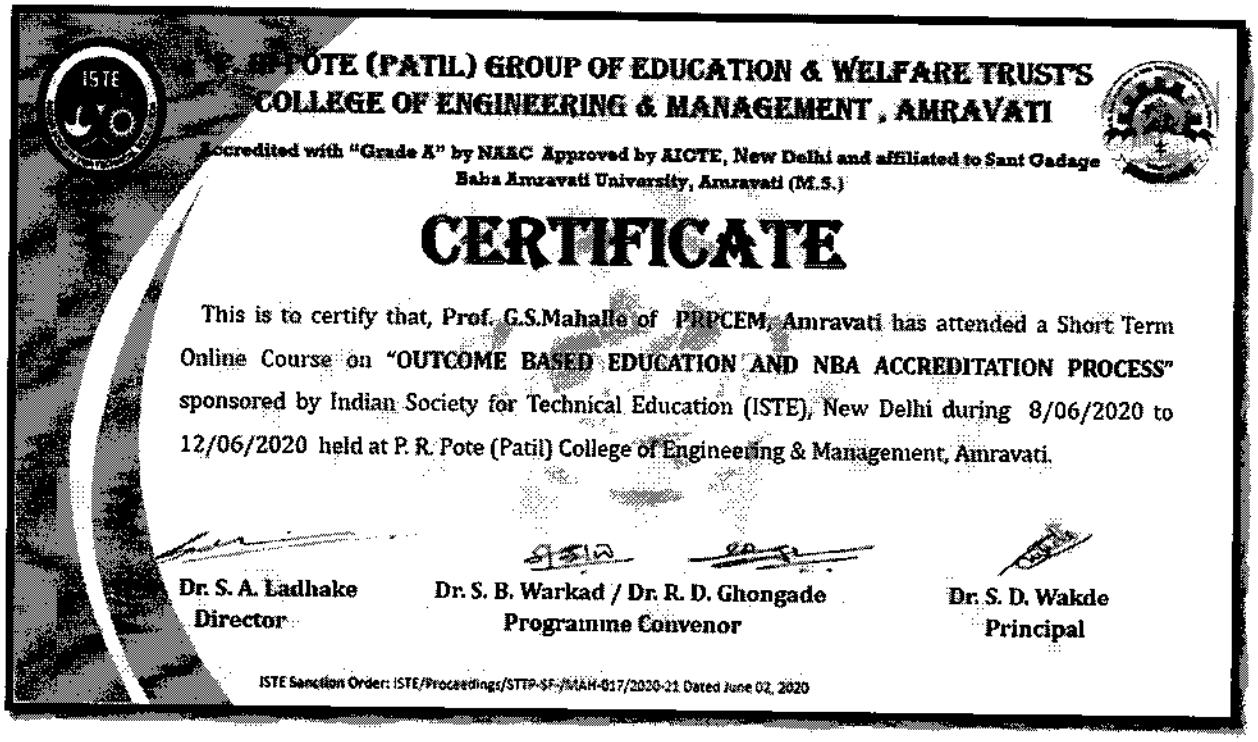
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

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This is to certify that, Prof. G.S.Mahalle of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

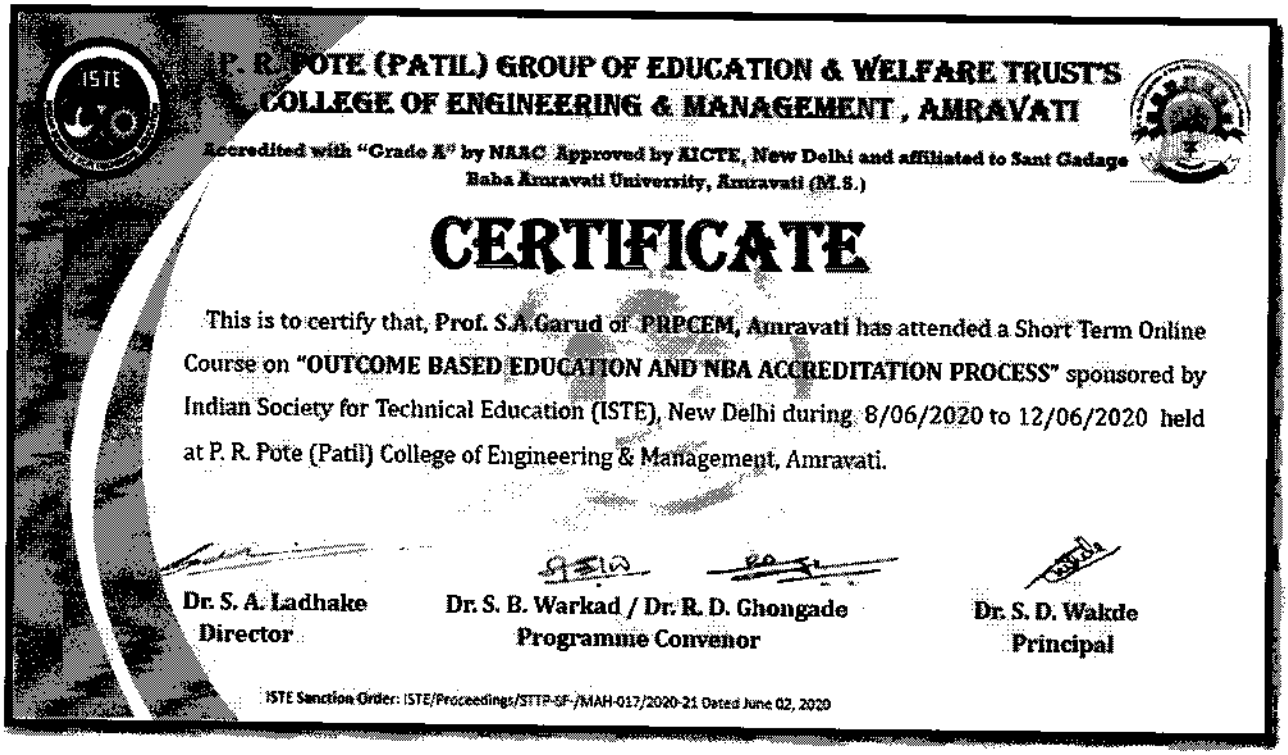
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

27.



P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
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CERTIFICATE

This is to certify that, Prof. S.A.Garud of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

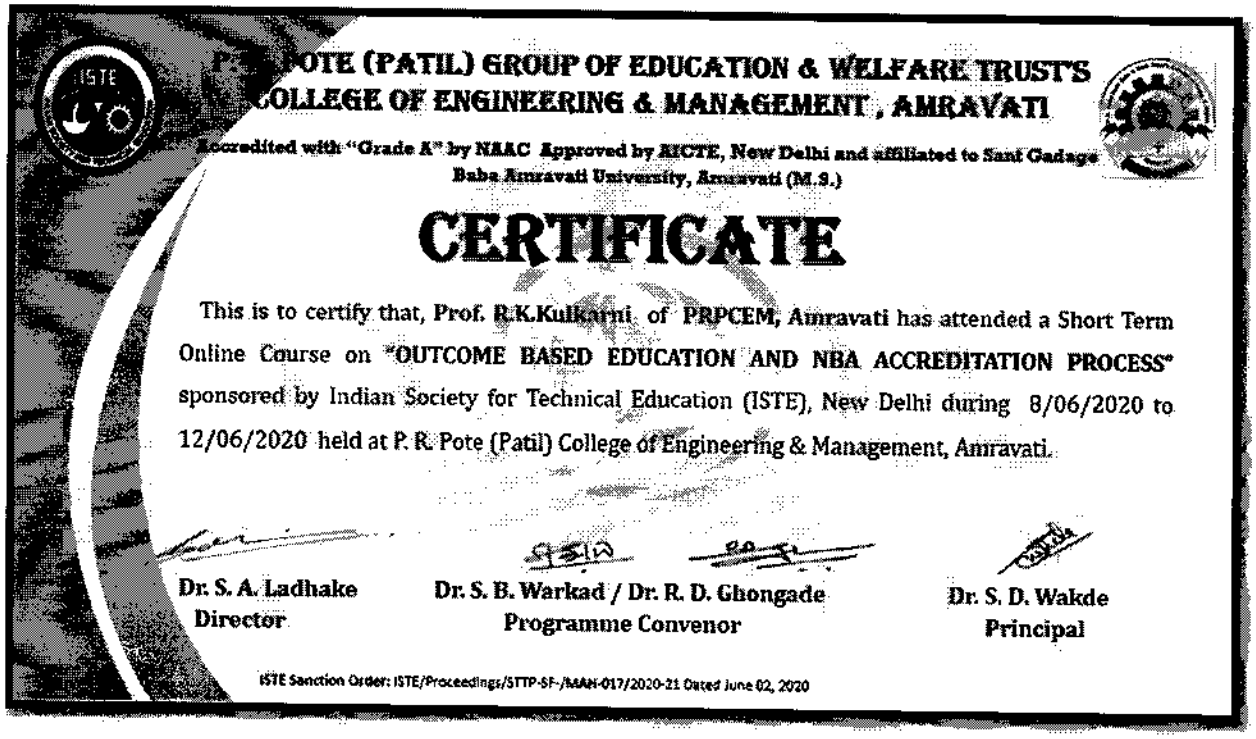
Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

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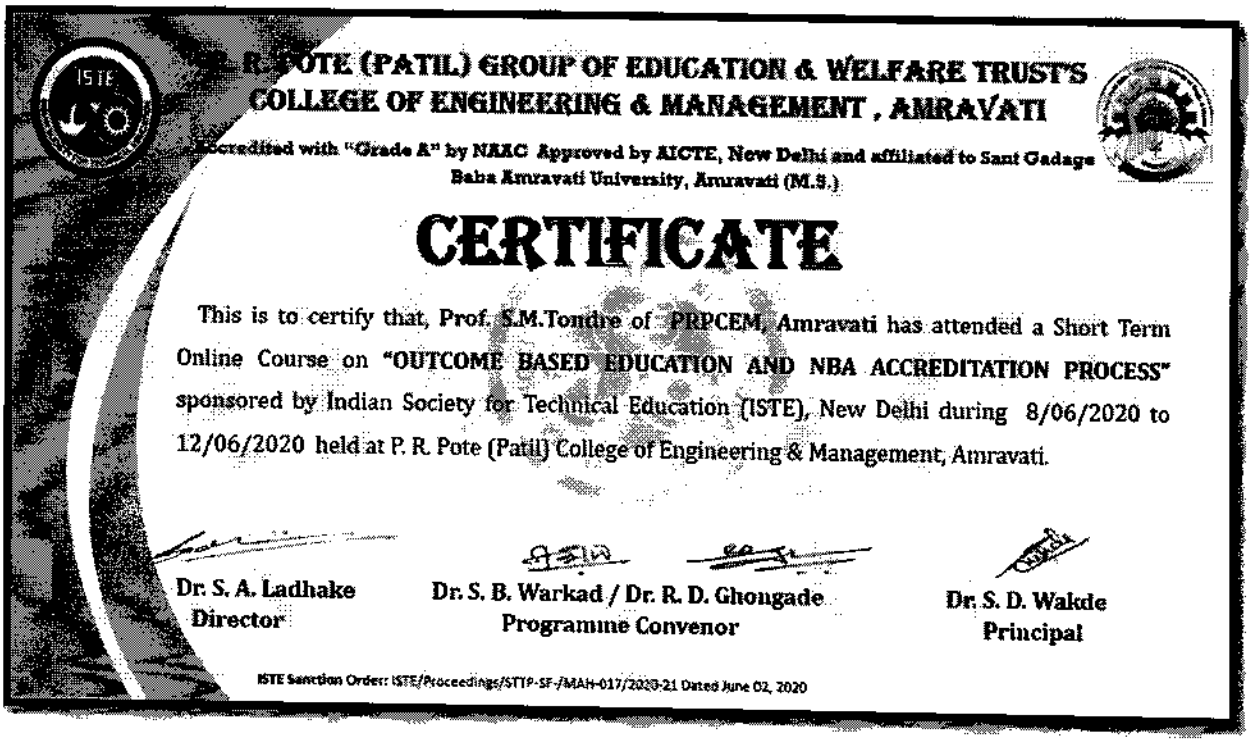
CERTIFICATE

This is to certify that, Prof. R.K.Kulkarni of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Dr. S. A. Ladhake, Director
Dr. S. B. Warkad / Dr. R. D. Ghongade, Programme Convenor
Dr. S. D. Wakde, Principal

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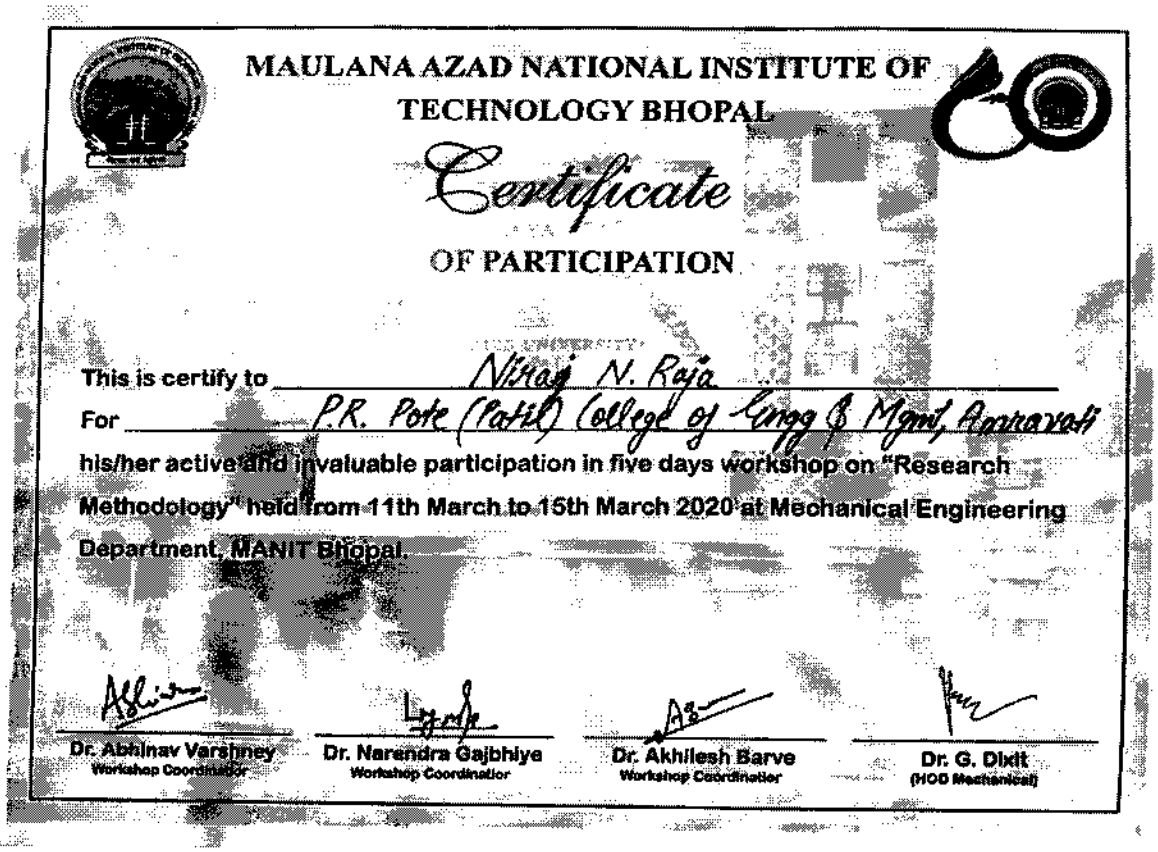
CERTIFICATE

This is to certify that, Prof. S.M.Tondre of PRPCEM, Amravati has attended a Short Term Online Course on "OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS" sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Dr. S. A. Ladhake, Director
Dr. S. B. Warkad / Dr. R. D. Ghongade, Programme Convenor
Dr. S. D. Wakde, Principal

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30.



MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL

Certificate

OF PARTICIPATION

This is certify to Nitaj N. Raja

For P.R. Pote (Patil) College of Engg & Mgmt, Amravati

his/her active and invaluable participation in five days workshop on "Research Methodology" held from 11th March to 15th March 2020 at Mechanical Engineering Department, MANIT Bhopal.

Dr. Abhinav Varshney, Workshop Coordinator
Dr. Narendra Gajbhiye, Workshop Coordinator
Dr. Akhilesh Barve, Workshop Coordinator
Dr. G. Dixit, (HOD Mechanical)

Presented Paper

1.



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GCMR-2019

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. D. K. Chavhan

of PRPCEM, Amravati

has participated / presented a paper entitled " Peltier Comfort Conditioner" *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad, Dean (R&D)

Dr. Mrs. S. D. Wakde, Principal, PRPCE&M

Prof. P. P. Wadnerkar, Vice-Principal, PRPCE&M

Dr. A. C. Bhoyar, Dean (Academics)

Yashika Publication

Scopus

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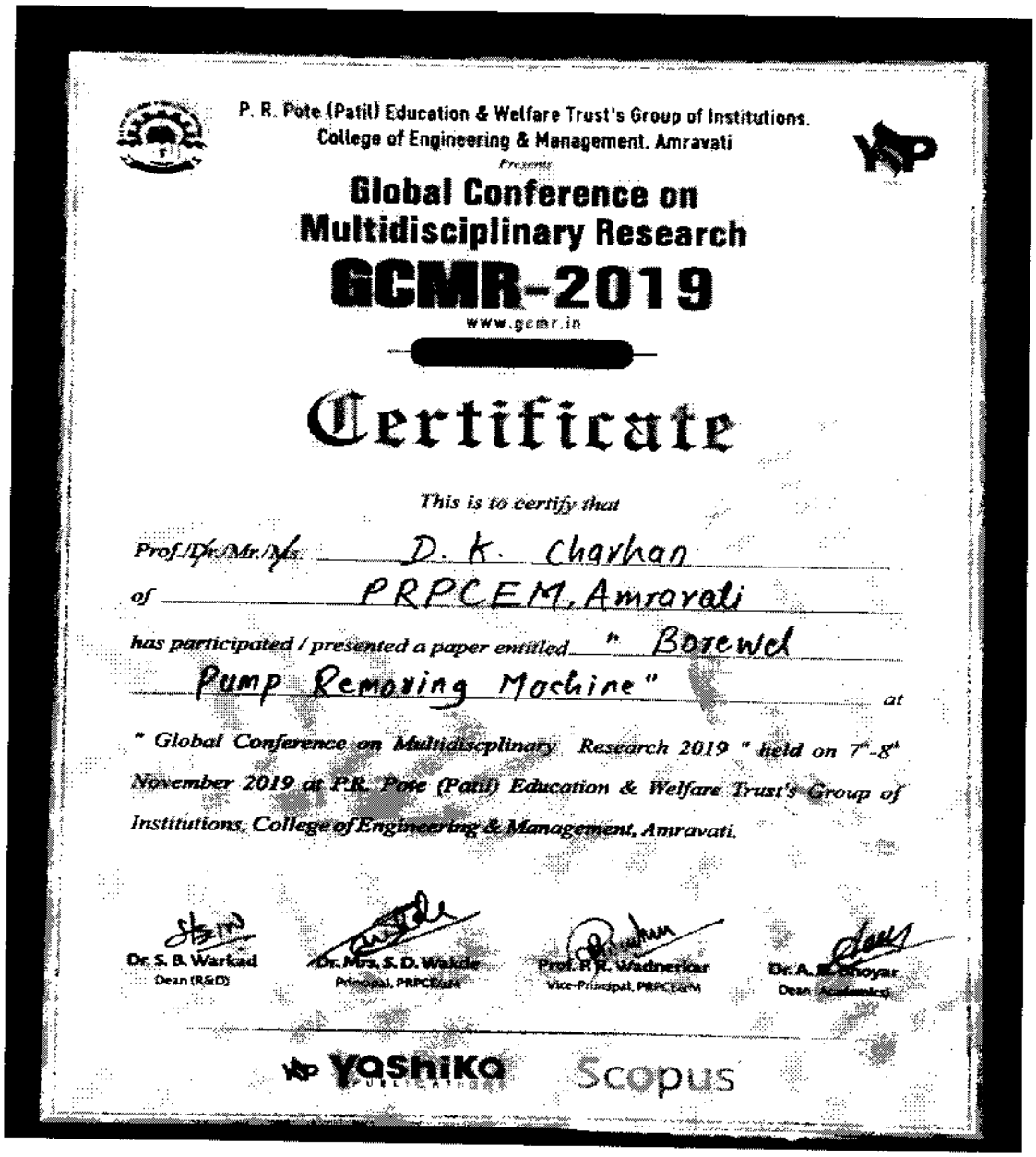
This is to certify that, **Prof. S.G.Dalu** of **PRPCEM, Amravati** has attended a Short Term Online Course on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS"** sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

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Dr. S. A. Ladhake	**Dr. S. B. Warkad / Dr. R. D. Ghongade**	**Dr. S. D. Wakde**
Director	**Programme Convenor**	**Principal**

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2.



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This is to certify that

Prof./Dr./Mr./Ms. D. K. Charhan

of PRPCEM, Amravati

has participated / presented a paper entitled " Borewell Pump Removing Machine" *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Walde
Principal, PRPCEM

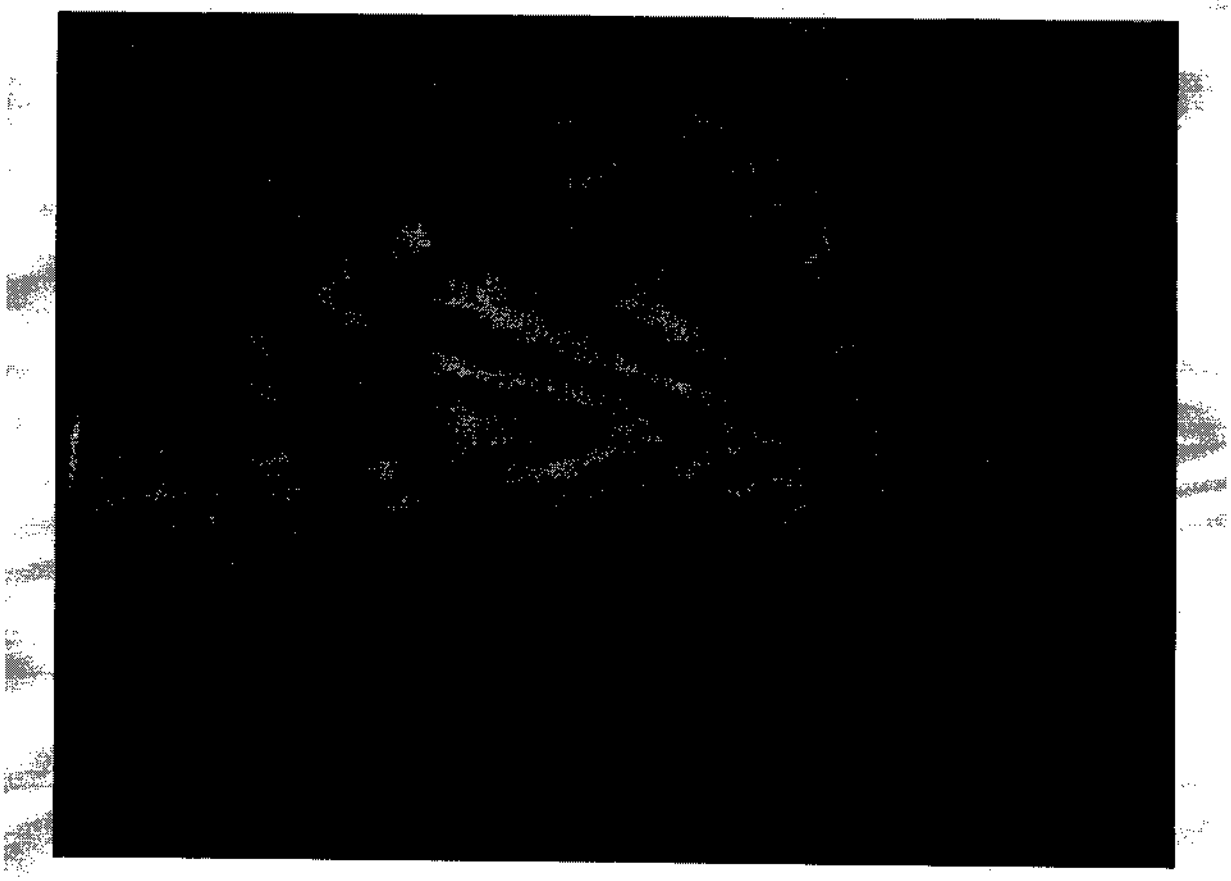
Prof. P. R. Wadnerkar
Vice-Principal, PRPCEM

Dr. A. B. Bhoyar
Dean Academics

Yashika Publications

Scopus

3.



4.



CERTIFICATE

61st National Convention
of
Indian Institution of Industrial Engineering
&
5th International Conference
on

Industrial Engineering (ICIE 2019)

This is to certify that Dr./Prof./Mr./Ms.

Pankaj Ardak

has attended 61st National Convention of Indian Institution of Industrial Engineering
& 5th International Conference on **Industrial Engineering (ICIE 2019)**
Hosted by Indian Institution of Industrial Engineering (IIIE) Surat Chapter,
S. V. National Institute of Technology, Surat, India during December 12-14, 2019
and presented a paper entitled

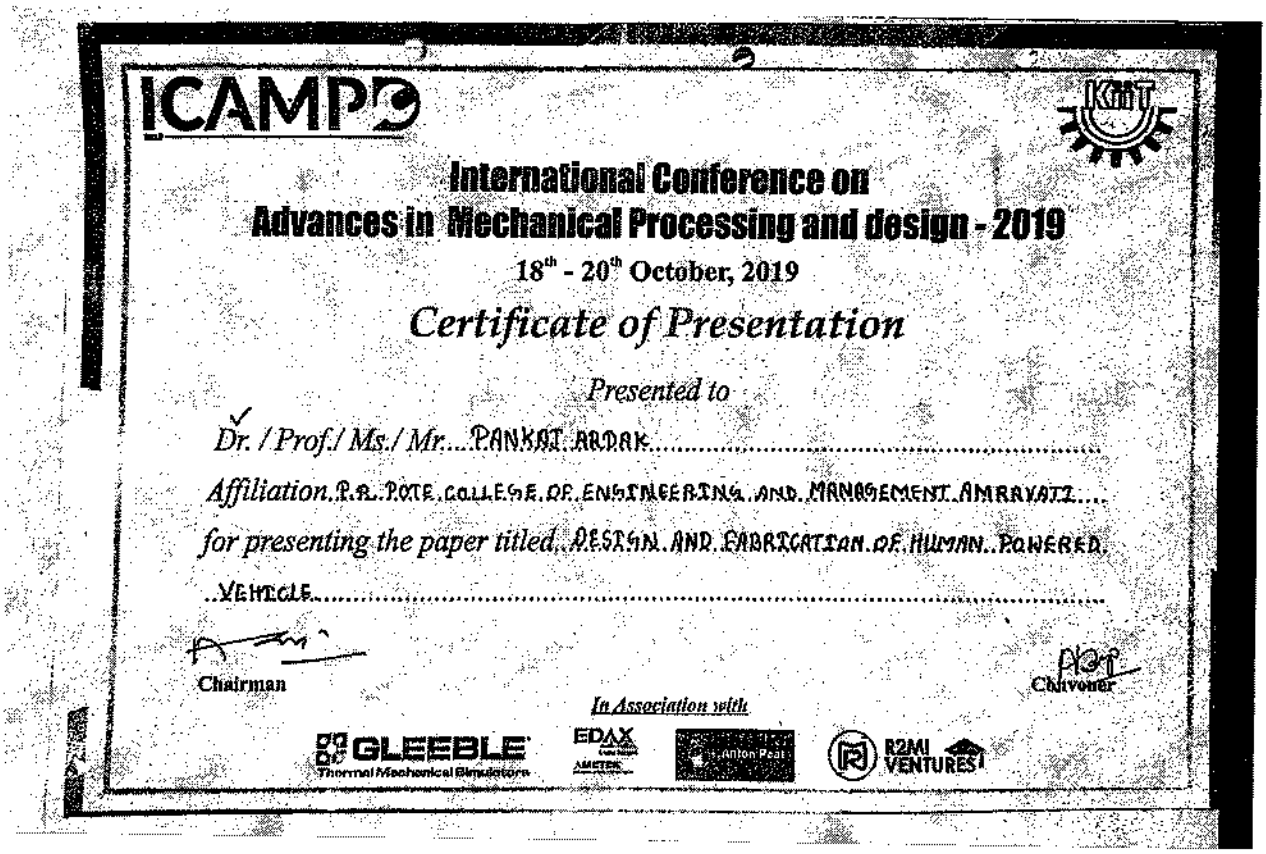
Role of Inventory dependent Consumption Rate Parameter in EPQ

Dr. Ravi Kant
Convener

Dr. Tushar N. Desai
Convener

Shri D. V. Bhagat
Chairman, IIIE National Council

5.



ICAMPD

KMT

International Conference on
Advances in Mechanical Processing and design - 2019

18th - 20th October, 2019

Certificate of Presentation

Presented to

Dr. / Prof./ Ms./ Mr. PANKAJ ARDAK

Affiliation P.R. POTE COLLEGE OF ENGINEERING AND MANAGEMENT AMRAVATI

for presenting the paper titled DESIGN AND FABRICATION OF HUMAN POWERED VEHICLE

Chairman

Convener

In Association with

GLEEBLE Thermal Mechanical Simulators

EDAX AMETEK

Anton Paar

R2MI VENTURES

6.



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College of Engineering & Management, Amravati

Global Conference on
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GCMR-2019

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[redacted]

Certificate

This is to certify that

Prof/Dr/Mr/Ms. Shrikant G. Dalu

of P. R. Pote (Patil) College of Engg. & Mgt. Amravati

has participated/presented a paper entitled Investigation of Various Parameters Effect on Aluminium Alloy 6061 HPDC Sheet at

the Global Conference on Multidisciplinary Research 2019 held on 7-8th November at P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

7.



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Certificate

This is to certify that

Prof./Dr./Mr./Ms. Rajesh Sudhakarrao Pokale

of PR Pote Patil C.o.Engg & Mgmt. Amravati

has participated / presented a paper entitled Design and Fabrication of Universal Cooler Cum Heater *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCEM

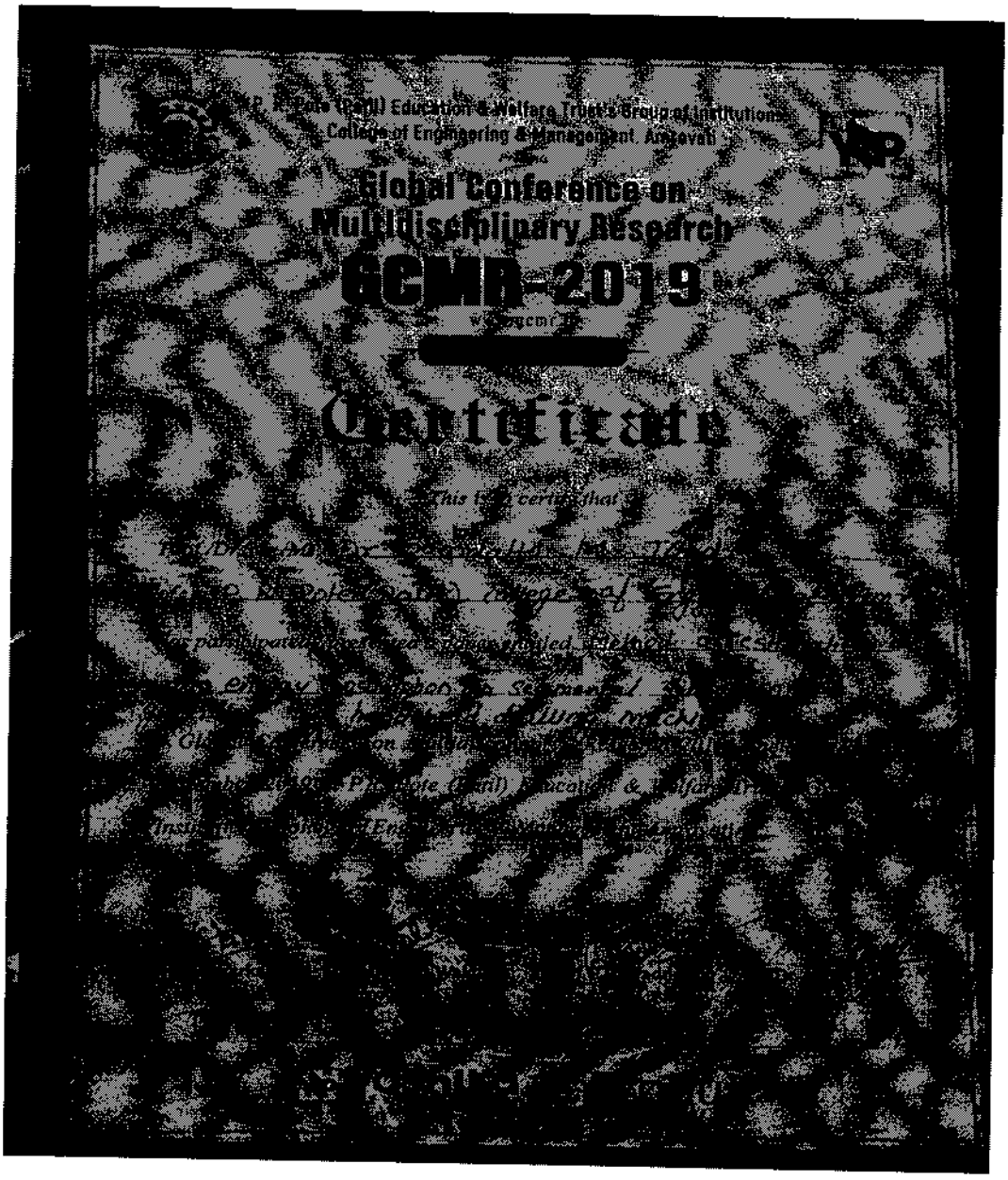
Prof. V. P. Unhelekar
Vice Principal, PRPCEM

Dr. A. D. Bhoyar
Dean (Academics)

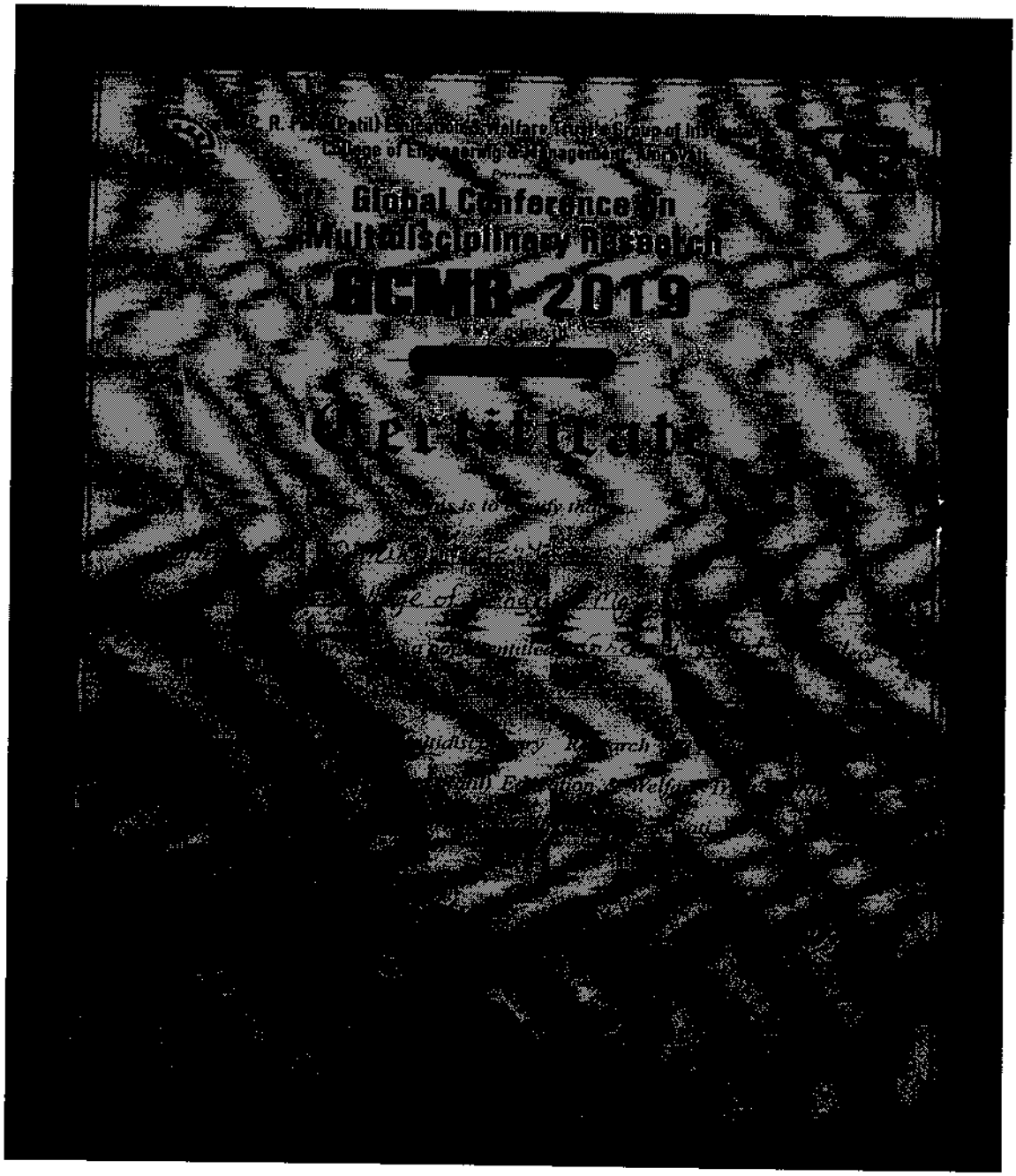
Yashika Publication

Scopus

8.


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Multidisciplinary Research
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9.


Global Conference on
Multidisciplinary Research
GCMR-2019
Certificate

10.



CERTIFICATE

61st National Convention
of
Indian Institution of Industrial Engineering
&
5th International Conference
on

Industrial Engineering (ICIE 2019)

This is to certify that Dr./Prof./Mr./Ms.

Shridhar Mendhe

has attended 61st National Convention of Indian Institution of Industrial Engineering & 5th International Conference on **Industrial Engineering (ICIE 2019)**
Hosted by Indian Institution of Industrial Engineering (IIIE) Surat Chapter, S. V. National Institute of Technology, Surat, India during December 12-14, 2019 and presented a paper entitled

Role of Inventory dependent Consumption Rate Parameter in EPQ

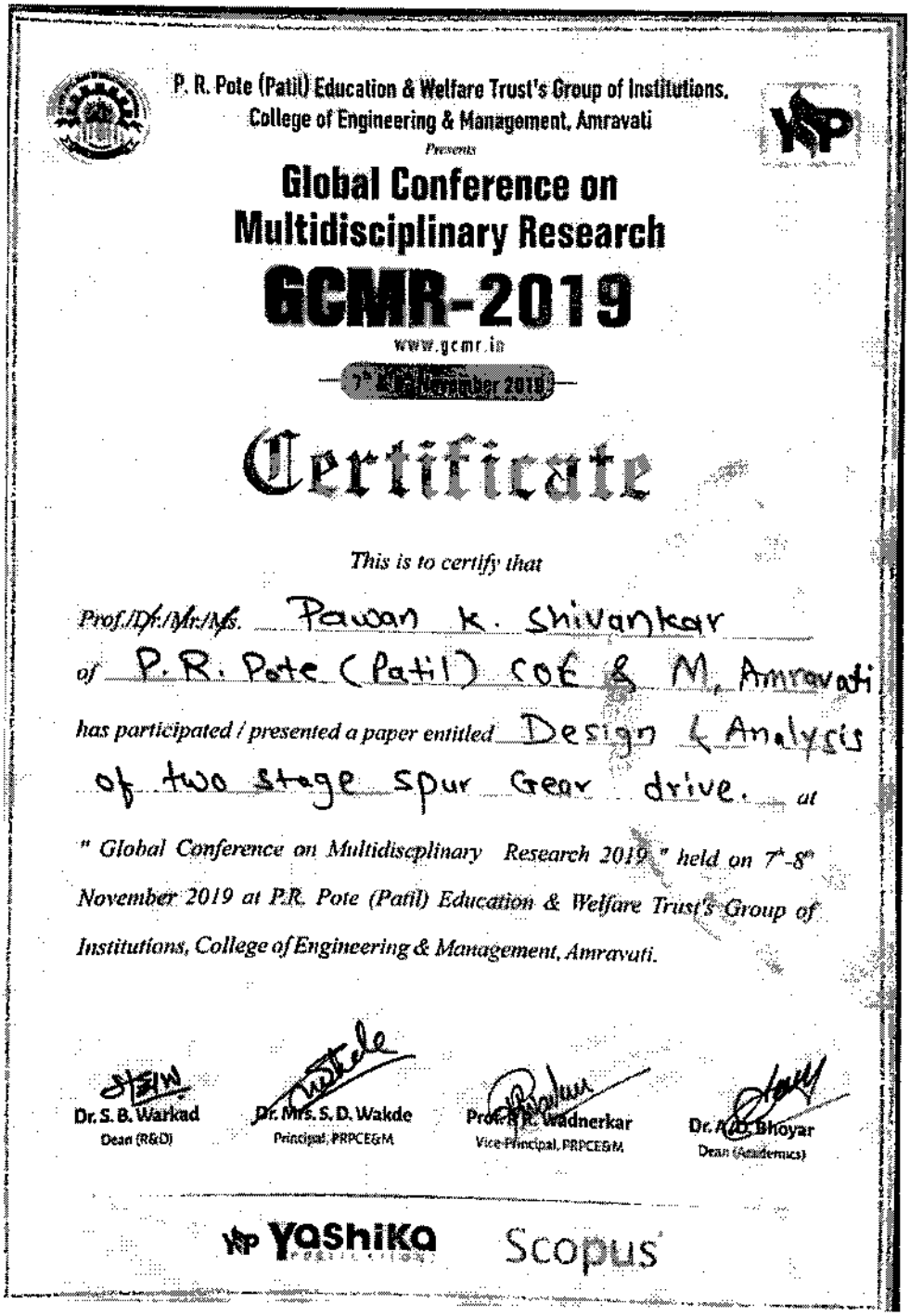
Dr. Ravi Kant
Convener

Dr. Tushar N. Desai
Convener

Shri D. V. Bhagat
Chairman, IIE National Council

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11.



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7th & 8th November 2019

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This is to certify that

Prof./Dr./Mr./Ms. Pawan K. Shivankar

of P.R. Pote (Patil) COE & M, Amravati

has participated / presented a paper entitled Design & Analysis of two stage spur Gear drive. *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad, Dean (R&D)

Dr. Mrs. S. D. Wakde, Principal, PRPCE&M

Prof. S. R. Wadnerkar, Vice-Principal, PRPCE&M

Dr. A. D. Bhoyar, Dean (Academics)

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. Pawan K. Shivankar

of P. R. Pote (Patil) CoE & M, Amravati.

has participated / presented a paper entitled Design & Fabrication of Penta-Wheel Stair Case trolley. *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P.R. Wadnerkar	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

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Presents

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. B. Ingle

of Dept. of Mechanical Engineering.

has participated / presented a paper entitled Performance Evalution of Solar Water Heater by using Zig Zag tube Arrangement with Natural Convection *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. [illegible] Bhoyar
Dean (R&D)	Principal, PRPCEM	Vice Principal, PRPCEM	Dean (Academics)

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. S. Arclak

of Dept of Mechanical Engineering

has participated / presented a paper entitled Design and Analysis of automatic hammering machine. *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

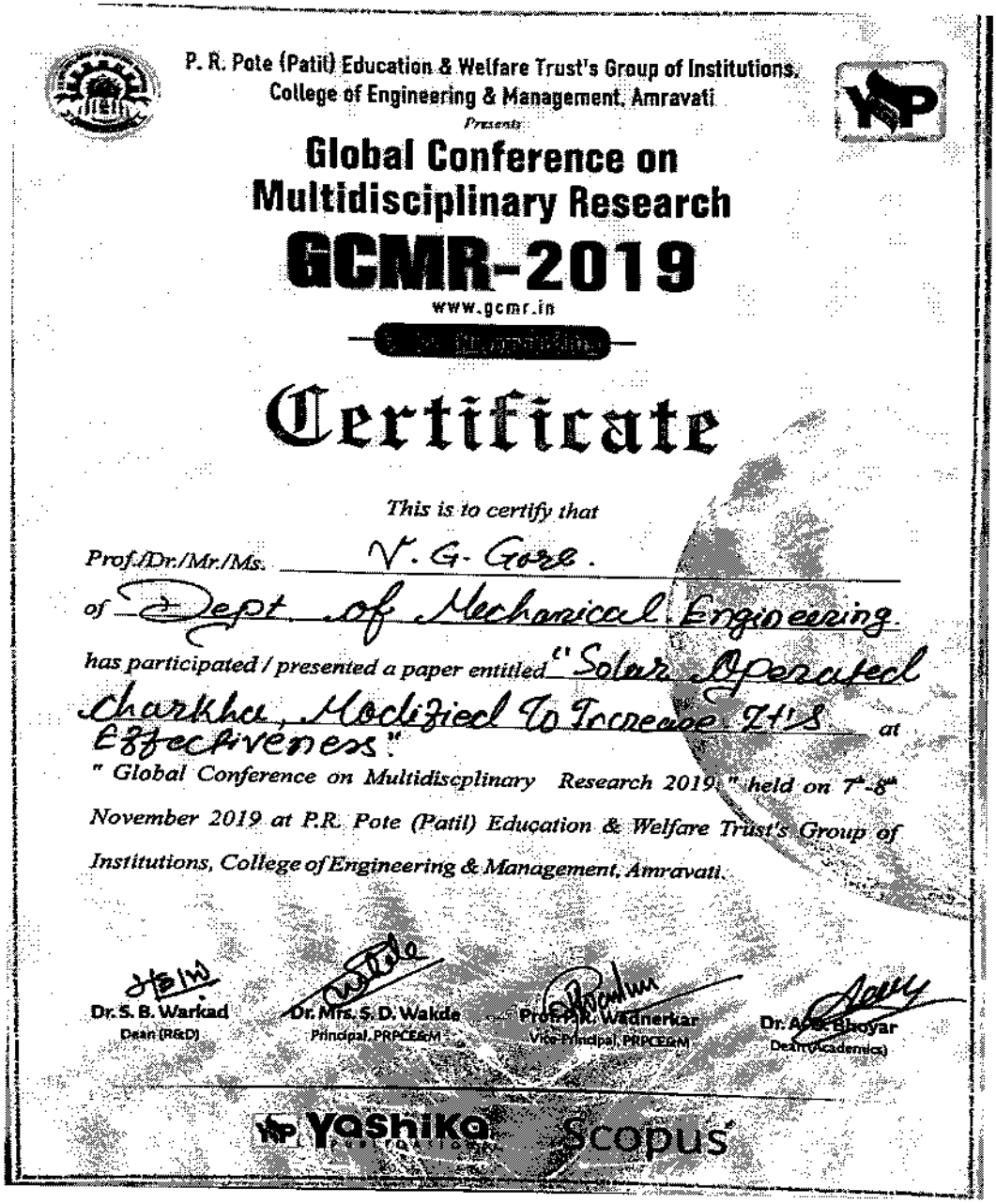
Prof. P. R. Wadnerkar
Vice-Principal, PRPCE&M

Dr. A. D. Bhoyar
Dean (Academics)

Yashika Publications

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This is to certify that

Prof./Dr./Mr./Ms. V. G. Gore.

of Dept. of Mechanical Engineering.

has participated / presented a paper entitled "Solar Operated Charkha, Modified To Increase It's Effectiveness." *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad, Dean (R&D)
Dr. Mrs. S. D. Wakde, Principal, PRPCEaM
Prof. P. R. Wadnerkar, Vice Principal, PRPCEaM
Dr. A. [illegible] Bhoyar, Dean (Academics)

Yashika Publication
Scopus

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College of Engineering & Management, Amravati

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. B. Ingle.

of Dept. of Mechanical Engineering.

has participated / presented a paper entitled "Experimental Investigation of Heat Transfer Using Twisted With Uniform Alternate at Length in Double Pipe U-Bend Heat Exchanger"

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. B. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

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Prof./Dr./Mr./Ms. G. S. Mahalle

of Dept of Mechanical Engineering.

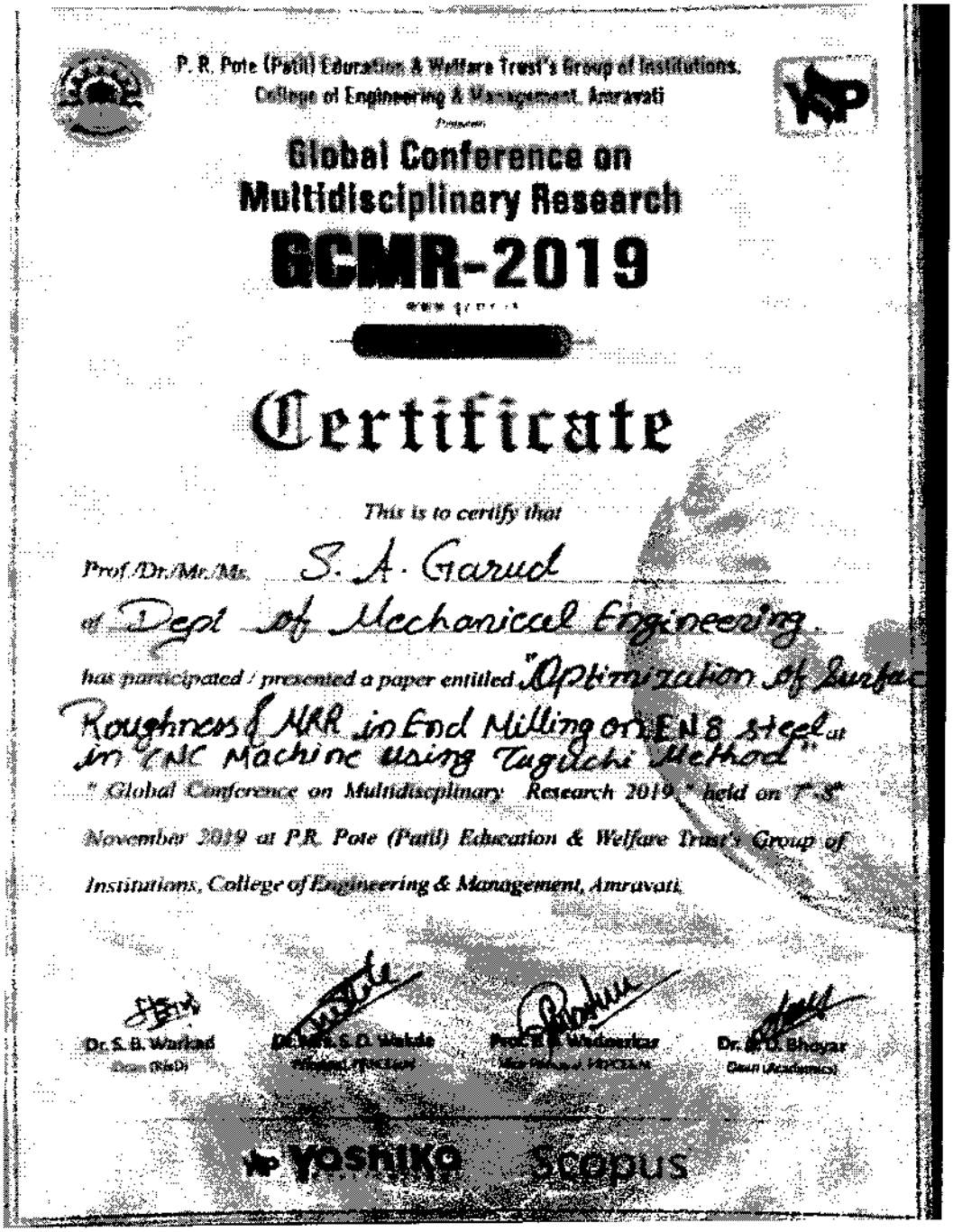
has participated / presented a paper entitled Performance evaluation and CFD analysis of Solar Air heater with baffled duct. *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. D. Wadnerkar	Dr. A. B. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

Yashika Publications Scopus

18.



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College of Engineering & Management, Amravati

Global Conference on
Multidisciplinary Research
GCMR-2019

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. S. A. Garud

of Dept of Mechanical Engineering.

has participated / presented a paper entitled "Optimization of Surface Roughness & MRR in End Milling of EN8 steel at in CNC Machine using Taguchi Method"

" Global Conference on Multidisciplinary Research 2019 " held on 7th & 8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad (Dean (R&D))

Dr. S. S. O. Wakde (Principal, PRPCEM)

Prof. S. S. Wadewar (Vice Principal, PRPCEM)

Dr. P. O. Bhayar (Dean (Academics))

Yoshiko Scopus

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College of Engineering & Management, Amravati

Presents

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. S. A. Garud

of Dept of Mechanical Engineering

has participated / presented a paper entitled Design and fabricati
of Compact Groundnut Shelling and oil at
Expeller Machine.

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. R. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCEM

Prof. P.R. Wadnerkar
Vice-Principal, PRPCEM

Dr. A. Deshpande
Dean (Academics)

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20.

P. R. Pote (Patil) Education & Welfare Trust's Group of Institutions.
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Global Conference on Multidisciplinary Research

GCMR-2019

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. V. G. Gore.

of Dept. of Mechanical Engineering

has participated / presented a paper entitled "Power Generation From Water Pipelines Using Vertical Axis Turbines." *at*

" Global Conference on Multidisciplinary Research 2019" held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. R. R. Wadnerkar
Vice-Principal, PRPCE&M

Dr. A. D. Bhoyar
Dean (Academics)

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GCMR-2019

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. B. Tingle

of Dept. of Mechanical Engineering

has participated / presented a paper entitled Production & Experimental Investigation of Castor Biodiesel in Fixed Compression Ratio Diesel Engine *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. R. Wadnerkar
Vice Principal, PRPCE&M

Dr. A. G. Bhoyar
Dean (Academics)

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. B. Ingle.

of Dept. of Mechanical Engineering.

has participated / presented a paper entitled "Experimental Investigat of Heat Transfer Using Twisted With Unifform Alternate at length in Double Pipe U-Bend Heat Exchanger"

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. R. Wadnerkar
Vice-Principal, PRPCE&M

Dr. A. S. Bhoyar
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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. K. N. Kariya

of Dept of Mechanical Engineering.

has participated / presented a paper entitled Heat Transfer Enhancement Using Fe3O4 Water Nanofluid in Double Tube Heat Exchanger With Internal Longitudinal Fins.

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad, Dean (R&D) — Dr. Mrs. S. D. Wakde, Principal, PRPCE&M — Prof. P. P. Wadnerkar, Vice Principal, PRPCE&M — Dr. A. [illegible], Dean (Academics)

Yashika Publications — Scopus

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. R. K. Kulkarni

of Dept. of Mechanical Engineering.

has participated / presented a paper entitled Lack of lean manufacturing in Anand sagar (Bottle) at Industry.

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. S. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

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College of Engineering & Management, Amravati

Presents

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GCMR-2019

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. S. J. Deshmukh

of Dept. of Mechanical Engineering

has participated / presented a paper entitled Optimization of Interference Thickness in Shaft & Pulley at Assembly using Ansys Software.

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad, Dean (R&D) | Dr. Abhay S. D. Wakde, Principal, PRPCEM | Prof. P. R. Wadnerkar, Vice-Principal, PRPCEM | Dr. A. B. Bhoyar, Dean (Academics)

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. N. N. Raja.

of Dept of Mechanical Engineering.

has participated / presented a paper entitled Design & Fabrication

of Waste paper Recycling Machine. *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. S. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadherkar	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

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College of Engineering & Management, Amravati

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

Certificate

This is to certify that

Prof./Dr./Mr./Ms. G.S. Mahalle

of Dept of Mechanical Engineering

has participated / presented a paper entitled Performance evaluation and CFD analysis of Solar Air heater with baffled duct.

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. P. Wadnerkar
Vice-Principal, PRPCE&M

Dr. A. [illegible] Bhoyar
Dean (Academics)

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28.

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College of Engineering & Management, Amravati

Presents

Global Conference on Multidisciplinary Research

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[redacted]

Certificate

This is to certify that

Prof./Dr./Mr./Ms. P. S. Arelak

of Dept of Mechanical Engineering

has participated / presented a paper entitled Design and Analysis of automatic hammering at machine.

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. P. [illegible]
Dean (R&D)	Principal, PRPCE&M	Vice Principal, PRPCE&M	Dean (Academics)

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

Presents

Global Conference on Multidisciplinary Research

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. S. T. Deshmukh.

of Dept of Mechanical Engineering.

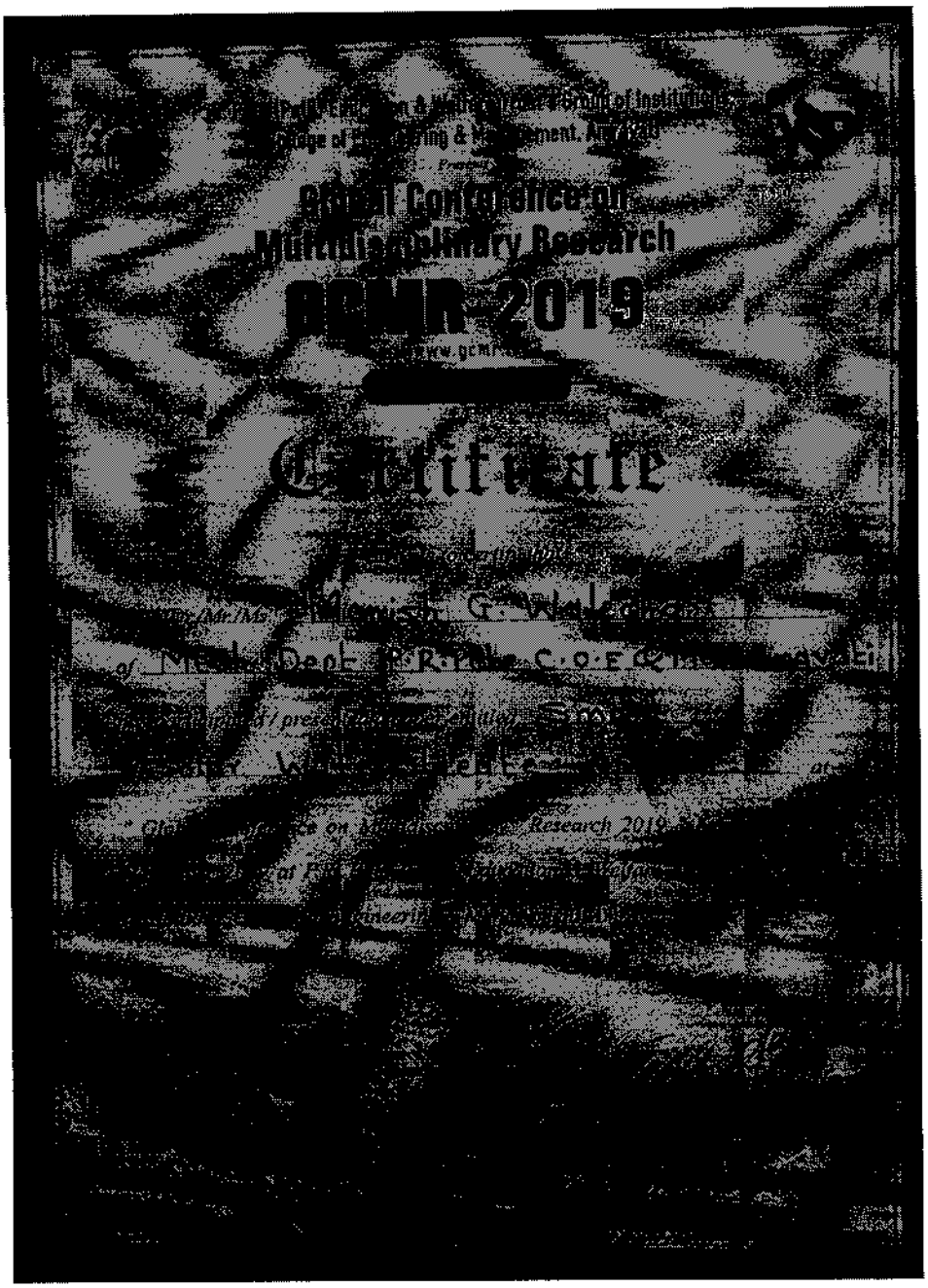
has participated / presented a paper entitled Flying robot to perform multi operations *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

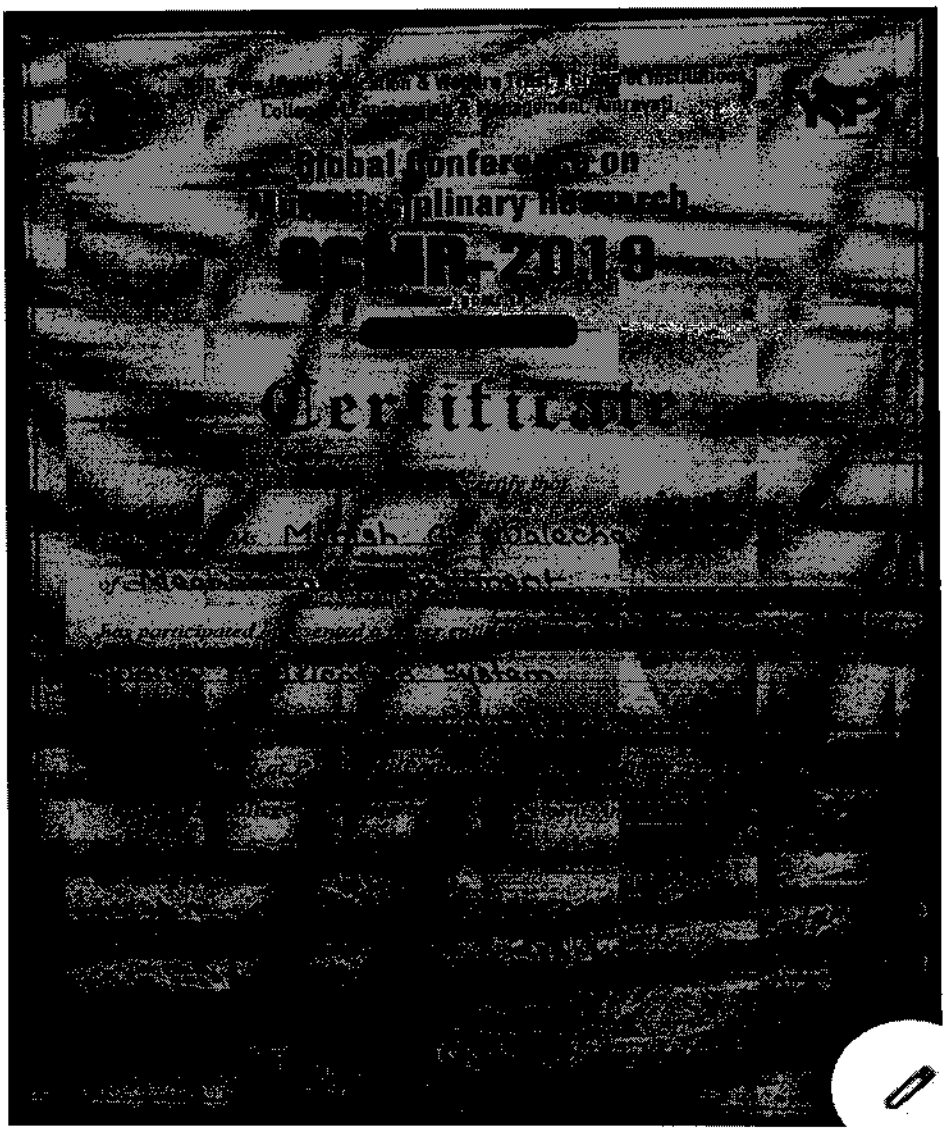
Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. P. Wadnerkar	Dr. A. B. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

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30.



31.


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Presents

Global Conference on Multidisciplinary Research

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. A S Shaikh

of P.R. Pote (Patil) College of Engg & Mgmt. Amravati

has participated / presented a paper entitled "Fabrication of Air Energy Recovery System Through Exhaust Fan" *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Watekar	Dr. A. C. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

Yashika Publications Scopus

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In collaboration with

MSEDCL's Institute of Training & Safety, Udhare, Nashik

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms. PRADEEP JAYANTILAL KOLAK has participated in One-week Online Faculty Development Program on "New Challenges & Issues of Indian Electrical Market for Upcoming Decade-2030" organized by Department of Electrical Engineering from 11.05.2020 to 15.05.2020.

Dr.P.G.Barade
Co-ordinator
Head of Department

Mr.Sunder Lapate
Chief General Manager
I.T.&S, Eklahare

Dr.S.T.Gandhe
Principal

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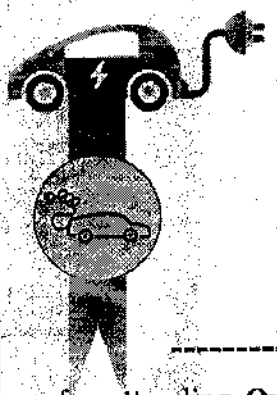
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Jhulelal Institute Of Technology

Approved by AICTE, Recognized by DTE and Affiliated to RTM Nagpur University

Department of Electrical Engineering

EV 135



CERTIFICATE OF PARTICIPATION

This certificate is presented to

Pradeep Jayantilal Kotak

for attending **One Week Faculty Development Programme** on **"Electric Vehicle"** organised by **Department of Electrical Engineering, Jhulelal Institute of Technology, Nagpur-441111** in association with CADD Center Training Services and Vishvakariya Automotive Pvt. Ltd. Nagpur, held on **11th – 16th May 2020.**

Prof. Rohan M. Ingle
Convener-FDP, H.O.D. EE

Certificate ID
UFLEJE-CE000049

Dr. Narendra N. Bawane
Principal, JIT- Nagpur

Sandip Foundation's

Sandip Institute of Technology and Research Centre, Nashik

NBA & NAAC A Accredited

CERTIFICATE OF PARTICIPATION

This is to certify that

Pradeep Jayantilal Kotak

has actively participated in One Week Online Faculty Development Program on

"Research Methodology and Tools"

Organized by Department of Computer Engineering

from 11th May to 15th May 2020.

Dr. Mangesh M. Ghonge	Dr. Amol D. Potgantwar	Dr. S. T. Gandhe
FDP, Coordinator	Head of Department	Principal

F.No AICTE/FDP-SI/WRO/ 60/1359

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

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This is to certify that Mr./Ms. Sachin A Jalit from P.R.Pote Patil Institute of Engg. & Management, Amravati, has participated and successfully completed 7-days "Faculty Development Program for Student Induction (FDP-SI)" during 22-28 July 2019 at G.H.Raisoni Academy of Engg. & Technology, Nagpur organized by All India Council for Technical Education(AICTE).

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Prof. Rajeev Sangal
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Adviser-I, AICTE

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Vishwakarma Automotive Pvt. Ltd.

CERTIFICATE OF PARTICIPATION

This is to Certify that

Sachin A. Jalit

has participated in **One Week Faculty Development Programme** on **'Electric Vehicle'** organised by Department of Electrical Engineering, Jhulelal Institute of Technology, Nagpur-411041 in association with CADD Centre Training Services and Vishwakarma Automotive Pvt. Ltd. Nagpur held on 11th-16th May 2020 where he/she has presented a seminar on the topic 'Certified Electric Vehicle Trainer'.

VINIT KARIYA
DIRECTOR
VISHWAKARMA AUTOMOTIVE
Pvt. Ltd.

Prof. ROHAN M. INGLE
Convener & HOD EE
Jhulelal Institute of Technology

P.S.R.ENGINEERING COLLEGE

An Autonomous Institution, Accredited by NAAC and listed under 12(B) of UGC Act 1956
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Sivakasi 626140, Virudhunagar District

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001:2008

Certificate

Of Participation

This certifies that

Sachin A. Jalit

P.R.Pote College Of Engineering & Mangement

has actively participated in a one week Faculty Development Program on **"Research Opportunities in Electrical Engineering and its Applications"** organized by Department of Electrical and Electronics Engineering of P.S.R.Engineering College Sivakasi from 18.05.2020 to 23-05-2020.

Convener

SANDIP FOUNDATION

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महाराष्ट्र राज्य विद्युत वितरण कंपनी मर्यादित

In Collaboration with

MSEDCL's Institute of Training & Safety, Eklahare, Nashik

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms. SACHIN A. JALIT has participated in One Week Online Faculty Development Program on "New Challenges & Issue of Indian Electricity Market and Upcoming Decade-2030" organized by Department of Electrical Engineering from 11.05.2020 to 15.05.2020.

Prof. A. A. Kulkarni Co-ordinator	Dr. P. G. Burade Head of Department	Mr. Sunder Lapate Chief General Manager	Dr. S. T. Gandhe Principal

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Lokmanya Tilak Jankalyan Shikshan Sanstha's

(LTJSS)

Priyadarshini College of Engineering

(NAAC Accredited Grade "A" with CGPA 3.31)

Approved by AICTE, New Delhi & Affiliated to RTMNU, Nagpur

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms SACHIN A. JALIT

has participated in ***One week Online Faculty Development*** *Program on* ***"Recent Trends in Electrical Engineering"***

RTEE-2020, *organized by* ***Department*** *of* ***Electrical Engineering, PCE, Nagpur*** *from*

18-05-2020 to 22-05-2020.

Mr.D.D.Dhawale	Mr. H.P.Thakre	Dr.R.A.Keswani	Dr.K.B.Porate	Dr.S.A.Dhale	Dr.M.P.Singh
(Coordinator)	(Coordinator)	(Co-Convener)	(Convener)	(Vice-Principal)	(Principal)

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RAMRAO ADIK INSTITUTE OF TECHNOLOGY

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Technology for designing the future

5-Days Online STTP on

MATLAB based Teaching-Learning in Mathematics, Science & Engineering

Certificate of Participation

This is to certify that ***Prof. PALLAVI M. MANKAR*** from ***PRPCE&M, Amravati, Maharashtra*** has successfully completed the online Short Term Training Program on ***"MATLAB based Teaching-Learning in Mathematics, Science & Engineering"***.

This STTP was organized by the Department of Electronics Engineering, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai in collaboration with DesignTech Systems Pvt. Ltd., Mumbai during 18th to 22nd May 2020.

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(10)

CERTIFICATE

Godavari Foundations

Godavari College of Engineering & Polytechnic,Jalgaon

(Approved by AICTE, New Delhi, Recognised by Govt. of Maharashtra)
P-51, Dr. Ulhas Patil Nagar Addl. M.I.D.C. Bhusawal Road, Jalgaon Phone No - 0257)2212999, 2213500
Affiliated to Dr. Babasaheb Ambedkar Technological University, (DBATU) Lonere, Dist - Raigad
Accredited by NAAC, www.godavaricoejal.ac.in

Three days online Faculty Development Program On Recent Developments in Electrical Transmission & Distribution System

This is to certify that Mr./Ms. Pallavi Marotirao Mankar of P. R. Pote (Patil) College of Engineering and Management has successfully completed Three days online Faculty Development Program (FDP) on **"Recent Developments in Electrical Transmission & Distribution System"** held during 28th May to 30th May 2020 organized by Department of Electrical Engineering, GF's Godavari College of Engineering, Jalgaon (MS)

Faculty Co-Ordinator	Co-Ordinator	Co- Convener	Convener
Prof. Mahesh H. Patil	Prof. Atul A. Barahte HOD, Electrical	Prof. Pravin V. Phalak Vice - Principal	Dr. Vijay H. Patil Principal

276

(9)

Dr.Rajendra Gode Institute of Technology and Research, Amravati

CERTIFICATE OF PARTICIPATION

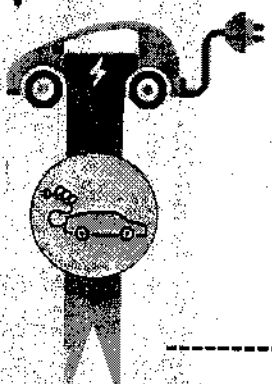
This is to certify that, Mr/Mrs Pallavi Marotirao Mankar of PRPCEM, AMRAVATI has successfully completed AICTE - ISTE sponsored self financing online short term training programme on " Outcome Based Education & Accreditation " held during 26/05/2020 to 30/05/2020 organised by Department of Mechanical Engineering.

Dr.M.R.Dharme Coordinator	Dr.P.S.Ardak Head of Department	Dr.P.B.Patil Principal

Jhulelal Institute Of Technology

Approved by AICTE, Recognized by DTE and Affiliated to RTM Nagpur University

Department of Electrical Engineering



CERTIFICATE OF PARTICIPATION

This certificate is presented to

Pallavi Marotirao Mankar

for attending **One Week Faculty Development Programme** on **"Electric Vehicle"** organised by **Department of Electrical Engineering, Jhulelal Institute of Technology, Nagpur-441111** in association with CADD Center Training Services and Vishvakariya Automotive Pvt. Ltd. Nagpur, held on **11th – 16th May 2020.**

Prof. Rohan M. Ingle
Convener-FDP, H.O.D. EE

Certificate ID
DVLODA-CE000024

Dr. Narendra N. Bawane
Principal, JIT- Nagpur

Jhulelal Institute Of Technology

CADD CENTRE
Skills Driven, Job Led

VAPL
Vishwakarma Automotive Pvt. Ltd.

CERTIFICATE OF PARTICIPATION

This is to Certify that

Pallavi Marotirao Mankar

has participated in **One Week Faculty Development Programme** on **"Electric Vehicle"** organised by Department of Electrical Engineering, Jhulelal Institute of Technology, Nagpur - 441111 in association with CADD Centre Training Services and Vishwakarma Automotive Pvt. Ltd. Nagpur held on **11th-16th May 2020** where the session was delivered by Mr. Harshal Bokre, a Certified Electric Vehicle Trainer.

VINIT KARIYA
DIRECTOR
VISHWAKARMA AUTOMOTIVE Pvt. Ltd.

Prof. ROHAN M. INGLE
Convener & H.O.D. EE
Jhulelal Institute of Technology

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(6)

SANDIP FOUNDATION

Sandip Foundation's
Sandip Institute of Technology & Research Centre, Nashik
(NAAC Accredited Grade 'A' with CGPA 3.11)
Approved by AICTE, New Delhi & Affiliated to SPPU, Pune

महावितरण

In collaboration with
MSEDCL's Institute of Training & Safety, Jaltarang, Nashik

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms. PALLAVI M. MANKAR has participated in One-week Online Faculty Development Program on "New Challenges & Issue of Indian Electricity Market for Upcoming Decade-2030" organized by Department of Electrical Engineering from 11.05.2020 to 15.05.2020.

Prof. G.A. Kokil Co-ordinator	Dr. P.G. Bhade **Head of Department**	Mr. Sundeep Tapate **Chief General Manager**	Dr. S.T. Gandhe **Principal**

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(5)

Shri Sai Shikshan Sanstha's

NAGPUR INSTITUTE OF TECHNOLOGY, NAGPUR

(NAAC ACCREDITED)

CERTIFICATE OF PARTICIPATION

This certificate is presented to **Dr./Prof. Pallavi M. Mankar**

of **PRPCEM, Amravati**

for the successful completion of **One week FDP** on "**Modern Trends in Electrical Drives**" (**MTED**), during **19th to 23rd May 2020**, jointly organized by **Department of Electrical Engineering, NIT, Nagpur** and **The Institution of Engineers (I), Nagpur Local Centre.**

****Eminent Speakers****

*Dr. Bhim Singh, IIT, Delhi *Dr. Vinay Kumar, I.I.T. Warangal *Dr. Nitesh P[illegible] Nagpur, VNIT, Nagpur *Dr. Sanjay B. Bodkhe, RCoEM, Nagpur
*Mr. Sibasish Par[illegible] NIT, Nagpur

Prof. R.V. Lonare
Co-ordinator FDP-MTED

Dr. J.G. Chaudhari
Convener FDP-MTED
& Head, EE

Dr. R.L. Shrivastava
Chairman, IE(I),
Nagpur Local Centre

Dr. Amol Deshmukh
Principal, NIT, Nagpur

Society For Computer Technology and Research's

Pune Institute of Computer Technology, Pune

Department of Electronics and Telecommunication Engineering

Spoken Tutorial

Certificate of Participation

This to certify that

Atul Anantrao Ghute

has participated in National Level One Week Online Faculty Development Program on

"MOODLE LEARNING MANAGEMENT SYSTEM"

Proudly organized by

Department of Electronics and Telecommunication Engineering, PICT, Pune in association with Spoken Tutorial, IIT Bombay, during 26th May to 30th May 2020.

Mr. R. J. Sutar	Dr. M. V. Munot	Dr. S. V. Gaikwad	Dr. P. T. Kulkarni
FDP Coordinator	FDP Coordinator	Head of Dept.	Principal

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AISSMS

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Certificate ID IQAC/FDP/NBA/W0NFAC-CE000040

This Certificate is awarded to **Atul Anantrao Ghute** from **P.R.Pote(Patil) COE & Mgt, Amravati, Amravati** for successfully attending, **Three Days Online FDP on "Preparing for NBA Accreditation with a Case Study of Course and Program Outcomes Attainment"** during **28th May to 30th May 2020** jointly organised by **IQAC of AISSMS IOIT, Pune** and **Association of Managements of Un-aided Engineering Colleges (Mah.)**

[Ms. Mousami Vanjale]	[Dr. P. B. Mane]	[Balasaheb D. Wagh]
IQAC Coordinator	Principal	President (Association)

P. R. Pote Patil College of Engineering & Management, Amravati
Department of Computer Science & Engineering
Faculty Development Program
on

"Python 3.4.3"

CERTIFICATE

OF PARTICIPATION
PRESENTED TO

Prof. Pritee Rane

On successful completion of one week Faculty Development Program and Online Training on "Python 3.4.3" jointly organized by Spoken Tutorial Project , IIT Bombay & P. R. Pote Patil College of Engineering & Management, Amravati from 22nd April 2020 to 27th April 2020.

Prof. P. P. Pawade	Prof. V. B. Bhagat	Dr. C. A. Dhawale	Dr. S. D. Waikle
Coordinator	Coordinator	Convener	Principal

Spoken Tutorial

Samridhi Sarwajanik Charitable Trust's

Jhulelal Institute of Technology

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NAAC Accredited, ISO Certified

in association with

organizes

One Week Online Faculty Development Program on "Overcoming the Challenges in Adapting Online Technology in Teaching Learning"

Certificate *of* Participation

This certificate is presented to **Prof. SMITA VIJAY KALMEGH (OTL0828)** of **P.R.Pote Patil Institute of Engineering and Research, Amravati.** for attending as well as satisfactory and timely submission of all the scheduled assignments in the One Week Online Faculty Development Program on "Overcoming the Challenges in Adapting Online Technology in Teaching Learning" held during 6th -11th May 2020.

Dr. D. S. Bhowmick	Dr. N. G. Bawane	Ms. M. P. Wairagade	Shri. P. V. Pampatwar
Vice-principal &	Principal	Director, HR & Admin	Director-Technical
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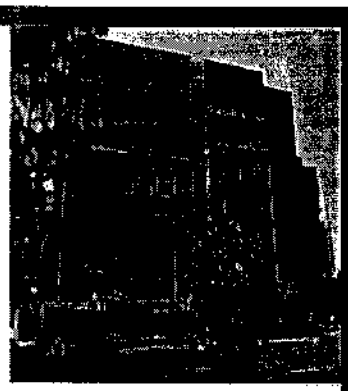
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May 9th 2020

Prof. Kannan M Moudgalya
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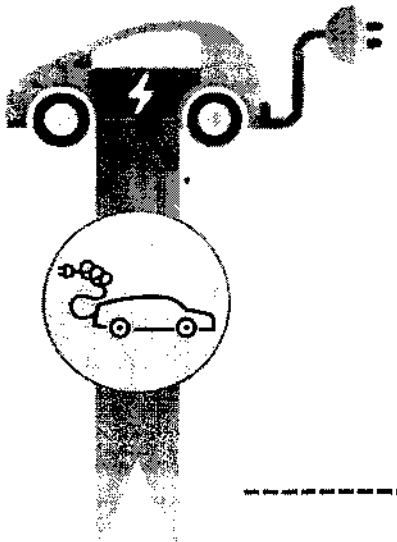
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****Eminent Speakers****

*Dr. Bhim Singh, IIT, Delhi *Dr. Vinay Kumar T, NIT, Warangal *Dr. Ritesh Kumar Keshri, VNIT, Nagpur *Dr. Sanjay B. Bodkhe, RCoEM, Nagpur
*Mr. Sibasish Panda, Research Scholar, VNIT, Nagpur

Prof. R.V. Lonare	Dr. J.G. Chaudhari	Dr. R.L. Shrivastava	Dr. Amol Deshmukh
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Coordinator

Dr.P.S.Ardak
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Dr.P.B.Patil
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International Journal of Grid and Distributed Computing
Vol. 12, No. 2, 2019

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Review of Optimum Design Approach of Switched Reluctance Motor Used for Electric Vehicle

Deepak A. Shahakar

Ph.D Scholar

Abstract— *Switched reluctance Moto (SRM) has become one of the best choices for electric vehicle drive because it exhibits prominent advantages over other kinds of electric drive system. Nowadays, switched reluctance machines (SRM) are gaining interest in the scientific community due to the advantages they offer. The SRM offers an overall efficiency similar to an induction motor of the same rating, since the friction and windage losses are comparable. Many researchers have been done on SRMs, their related systems and challenges. This paper reviews the SRM structures, their advantages and disadvantages. Various SRM topologies are studied and their merits and limits are given. Additionally, the most common control strategies for SRM drives are categorized, which is followed by a summary of the researches on challenges in torque and vibration reduction.*

Keywords— *Switched reluctance machine, direct and indirect control, torque ripple, vibration reduction*

I. INTRODUCTION

The climate changes over the last few decades and the shortage of natural resources lead to introduction of the concept of sustainable development which aims to meet the actual human needs while preserving the environment such that the needs of future generations can be met. In terms of preventing global warming and conserving natural resources, vehicles are playing a critical role [12]. To reduce the greenhouse gases produced by automotive vehicles, fuel efficiency must be improved while cleaning exhausts gases as well as ensuring safety. World are making appeals to the manufacturers and researchers to be aware of the need for development of electric vehicles. The challenge is high due to ever increasing demand for mobility and transport of people and goods, in urban and rural regions. The principal task is to replace the fossil energy dependency and its environmental impact, with primary energy sources that are renewable, secure, sufficient, and environmentally compatible [12].

The paradigm shift in the auto industry, towards more energy efficient, more reliable and smarter vehicles [13] led to the development of electrified vehicles. The more electric vehicles (MEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs) are entering in the class of electrified vehicles. As for the energy, it can be drawn from multiple sources, such as: chemical batteries, fuel cells (FCs) or ultra-capacitors.

The key component of the EV is the electric motor and, therefore, its choice is very important. Many types of electric motors have been analyzed during last decades and evaluated for EVs. Switched reluctance motors (SRM) have some advantages in comparison with other electric motors due to their simple structure, flexibility of control, high efficiency, lower cost and robustness to run under failure conditions. The machine rotor does not have any windings or permanent magnets, being suitable for very high speed drive applications [2], [3]. The switched reluctance motors drives (SRDs) need more advanced control technology than DC and AC motors drives. High torque ripple, high noise and vibrations are the most important drawbacks of the SRM [1].

In order to produce maximum torque and reduce the torque ripple, many investigations have been done to design the SRM effectively, which needs the determination of a set of geometrical parameters. The influences of these geometrical parameters were also the topic of many investigations.

This paper is organized as follows. Section II describes the principles of of a SRM, including the SRD systems and its advantages and limitations. Section III presents the conventional and advanced SRM structures. Section IV introduces the common control strategies. Challenges to overcome SRM limitations are presented in Section V. Conclusions are given in Section VI.

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Evaluating Available Transmission Capability using PTDF and Generator Participation Factor

Pritee.R.Rane, Nitin.D.Ghawghawe

Abstract: ***Congestion management in restructured power system is a major technical challenge for the power system engineers. For a congestion free power market , Available transfer capability(ATC) is to be enhanced. ATC is a measure of remaining MW transaction that can be carried out without violating the transmission limits. In deregulated market , change in load can be met by more than one generator of the system generator participation factor is a measure of amount of power contributed by the generator to satisfy the load.This paper proposes that in simultaneous power transaction generator participation factor can decide the ATC of the network and can also change the maximum amount of load sustained by the bus before causing congestion of the network For this coding is done in MATLB and results are verified on Power world Simulator software.***

Index terms— Deregulation, congestion, power transfer distribution factor, Available transfer capability, Generator participation factor

I.INTRODUCTION

Electric power utilities, throughout the world, are currently undergoing major restructuring process and are adopting the deregulated market operation[1]. The restructured markets normally employ either pool trading that involves bidding in the open market or bilateral/multilateral trading directly between seller(s) and buyer(s) or a combination of the both Managing dispatch in an open access environment is a new challenge facing independent transmission system operators who are mandated to provide a level playing field for all transmission uses. Two issues are especially important viz, use of transmission system charges and congestion management[2-3].

objective of deregulation of power system is to provide electrical power to consumers, which will be qualitative, quantitative and economic. However this objective could be encountered by the network congestion. Effective design and controlling of power system network can avoid it. This requires determining the sensitivity of power flow for the changes in power at a bus [4] Enhancing the transfer capability of existing transmission system under steady state as well as improving system security under dynamic contingencies has become need of a new era[5]

IIAvailable transfer capability(ATC)

Definition- According to NERC Report [6] Available Transfer capability (ATC) is a measure of transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses

ATC = TTC-TRM-{ETC + CBM} (1)

Where TTC- Total Transfer Capability
TRM-Transmission Reliability Margin
ETC-Existing Transmission Commitments
CBM-Capacity Benefit Margin

The versatile nature of load needs ATC to be updated continuously.ATC gives a measure how far the system is from the congestion [7].The main constraints for transaction of power are the thermal limit , the voltage limit and steady state limit.[8]The minimum out of these three i.e the thermal limit is considered for ATC calculation.Controlling,further planning and future planning of transmission infrastructure is dependent on ATC. Many researchers has come forward with various mathematical models to evaluate ATC of network.

II. POWER TRANSFER DISTRIBUTION FACTOR FOR ATC CALCULATION

Power transfer distribution factor (PTDF) method is used by many utilities for determination of ATC [9-10] .The change in load is met by various generators of the system.As the system is interconnected all transmission lines are sensitive to load change. The coefficient of the linear relationship between the amount of a transaction and the flow on a line is called the PTDF. When DC power flow is considered and ATC is calculated using PTDF method [11],it provides fast calculation but with less accuracy The change in line flow associated with a new transaction is then ,

$$\Delta P_{ij}^{New} = PTDF_{ij,mn} P_{mn}^{New} \quad (2)$$

Where i and j are buses at the ends of the line being monitored,
m and n are "from" and "to" zone numbers for the proposed new transaction,
P_{mn}^{New} is new transaction in MW amount.

$$P_{mn,ij}^{Max} \le \frac{P_{ij}^{Max} - P_{ij}^{0}}{PTDF_{ij,mn}} \quad (3)$$

$p_{mn,ij}^{Max}$ is the maximum allowable transaction amount from zone m to zone n.

ATC of the network is constrained by the minimum of the allowable transaction over all lines.

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Pritee. R.Rane, Research Scholar, Visvesvaraya National Institute of Technology Nagpur,
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from **P.R.Pote (Patil) College of Enggerning & Managment Amravati** having paper

title **Solar & Wind Intergated System**

has participated in online National Conference on "Technical Challenges & Innovation in Electrical Engineering -2020 (NCTCIEE-2020)" organized by Department of Electrical Engineering on dated 11th May 2020.

Prof.M.D.Hedau	Prof.E.A.Rangari	Prof.Dr.V.G.Neve	Dr.H.M.Baradkar
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from **P R Pote College of Engineering and Management Amravati Maharashtra** having paper title **IOT based smart and multipurpose Agriculture system**

has participated in online National Conference on "Technical Challenges & **Innovation in** Electrical Engineering -2020 (NCTCIEE-2020)" organized by Department of Electrical Engineering on dated 11th May 2020.

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Amravati (MS)

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International Journal of Future Generation Communication and Networking
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Optimal Power Flow for Hybrid HVDC-AC Transmission System: A Genetic Algorithm Approach

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Abstract

One of the most important requirements in power system operation, control and planning in energy management system (EMS) of modern power system control centers is optimal power flow (OPF). It is characterized as a difficult optimization problem and involves the optimization of an objective function, For example, minimization of total generation cost, and minimization of total loss in transmission networks, subject to a set of equality and inequality constraints such as generation and load balance, bus voltage limits, power flow equations, and active and reactive power limits.

In recent years, the incorporation of High Voltage Direct Current (HVDC) link in an

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International Journal of Recent Technology and Engineering (IJRTE)
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Mitigation of Inrush Current in Three Phase Power Transformer by Prefluxing Technique

Pradeep J.Kotak, P. S. Verma, Atul D. Tekade, S. B. Warkad

Abstract: *Transformers are major component for electrical energy transfer in power system. Sta¬bility and security of the transformer protection are important to system operation. At the time of transformer energization, a high current will be drawn by the transformer. The mentioned current is called transient inrush current and it may rise to ten times the nominal full load current of transformer during operation. Energization transients can produce me-chanical stress to the transformer, cause protection system malfunction and it often affects the power system quality and may disrupt the operation of sensitive electrical loads such as computers and medical equipment connected to the system. Re¬duction and the way to control of energization transient currents have become im-portant concerns to the power industry for engineers. One of the methods to reduce inrush current is use of point on wave switching at the time transformer is initially connected to supply. It is called controlled switching or point-on-wave switching. In the point on wave switching, the energization of three phases is controlled ac-cording to the residual flux which remains in the transformer. Conven¬tionally, controlled switching or point on wave switching was the method being used to counter this problem, but this method required the knowledge of residual fluxes of transformer before energization which is quite tedious to get. So a technique has been pro-posed to mitigate inrush current in three phase transformer, by a process called pre-fluxing. After setting the in-itial fluxes of transformer it is energized by conventional controlled switching. A system of power transformer of specified rating is simulated in MATLAB simulink and results were obtained. This Paper describes the mod-eling of inrush current of 3- phase, 300 MVA, 11/400 KV, 50 Hz transformer, and mitigation of inrush current with both techniques using point on wave switching and prefluxing. The simulation is done in MATLAB..*

Keywords *: Filter, Harmonics, Inrush current, MATLAB, Point-on-wave switching, prefluxing*

I. INTRODUCTION

Transformer is a static device which transforms electrical energy from one circuit to another without any direct electrical connection and with the help of mutual induction between to windings. It transforms power from one circuit to another without changing its frequency but may be in different voltage level. A transformer is a static electrical device that transfers energy by inductive coupling between its winding circuits. A varying current in the primary winding creates a varying magnetic flux in the transformer's core and thus a varying magnetic flux in the secondary winding. This varying magnetic flux induces a varying electromotive force (emf) or voltage in the secondary winding. Transformer plays vital role in the reliable operation of power system. Reliability means continuity of supply. The demand for a reliable supply of energy has increased considerably requiring nearly a no-fault operation of power systems. A transformer is a rather large and expensive unit therefore, in a competitive and fairly low margin market, utilities tend to postpone as much as possible the replacement of aged units. This inconveniently reduces the network reliability.

A transformer breakdown could have consequences on the rest of the power system and in addition the repair time of transformers is long. The costs associated with repairing a damaged transformer is very high. The number of transient situations is believed to increase in a distributed power generation regime. A wind farm will be extensively exposed both to switching and lightning over-stresses. The understanding and prediction of these situations can result in better protection schemes and integration of power transformers in the network. Hazardous operations like inrush currents, overvoltage, internal resonances, and lightning impulse stresses manifest as electromagnetic transients and are usually difficult to accurately predict. Also, outages of transformers can interrupt the power supply for considerable durations. Inrush currents are instantaneous currents flowing in the transformer primary circuit when it is energized. They are normally of short duration, usually of the order of several seconds

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Induction Motor Faults Classification using Parks-Hilbert Transforms Approach and ANN Networks

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Abstract

Due to the cardinal features like robustness, efficient load handling, reliability etc the Induction Motor is foremost used for number of applications. While working environmental conditions, mechanical stresses etc cause fault like bearing fault, inter-turn short circuit fault, rotor bar crack. These faults should be eliminated and categorized as early as possible to avoid harm. There are list of techniques are accessible for the fault catalogue of I.M. The Artificial Neural Network is the best solution over other existing techniques. The motor line currents recorded under varied faults conditions were analyzed using ANN.

Keywords: *I.M., Park's-Hilbert Transform, FFT, Statistical Parameters, ANN (networks)*

1. Introduction

Nowadays, Induction Motor has their wide usage in industrial and commercial sectors. But the induction motor undergoes several drawbacks while working due to mechanical stresses and environmental conditions. Failure survey have reported that the percentage of failure by components of induction motor as, [3]

(1) Stator related-38%

(2) Rotor related-10%

(3) Bearing Related-40%

(4) Other-12%

These faults conditions should be detected classified and clarified as much as possible. The fault should be clear in its minor state for maintaining its reliability, minimizing losses and expenses, etc. The fault may cause unexpected and sudden breakdown of motors.

There are ample techniques and methods of classification of faults have been developed now. But ANN is accepted as one of the best working techniques. The obtained result gives the crystal clear idea about its suitability of proposed techniques to acquire 100% accuracy for multiple fault categorizations.

The foremost behoof of ANN is that it derives the online cognition libidinous the kind and size of culpability outside possessing very daedal mathematical models. If the element of Neural Network flops,it can wage without whichsover exigency by theirparallel disposition.

2. Park's-Hilbert Transformation

2.1 Park's Transform:

Acquisition of three phase currents (I_A, I_B, I_C) at different loading and faulty conditions. As a function of mains phase variables (I_A, I_B, I_C) the motor current park's vector components (I_D, I_Q) are,[1] [5] [6]

$$I_D = \left(\frac{\sqrt{2}}{\sqrt{3}}\right) I_A - \left(\frac{1}{\sqrt{6}}\right) I_B - \left(\frac{1}{\sqrt{6}}\right) I_C \text{-------- [1]}$$

$$I_Q = \left(\frac{1}{\sqrt{2}}\right) I_B - \left(\frac{1}{\sqrt{2}}\right) I_C \text{---------[2]}$$

The Park's transform is a simple and efficient diagnosis method. It is based on the spectral analysis of Park's Square Vector (PSV) that is computed as,

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Comparative Study of Different Methods For Improvement of Power System Stability

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Abstract:
Power system stability plays an important role in power system problems. There are various problems occurs in power system because of instability. The main focus of this paper is related with the stability studies of the power system . There are various parameters which hammers stability of power system like rotor instability , voltage instability , frequency instability etc. So it is necessary to improve stability of power system for reliable and secure operation. There are different techniques like classical and advanced to improve the stability of power system. In this paper we have focused on improvement of voltage stability using classical and advanced techniques. And hence by giving comparative analysis of these methods conclusion is drawn.

Keywords: *Power system Stability, PSO , LPP , Advanced PSO*

I. Introduction:

A. Electric Power System

We are in need of energy for our industrial, commercial and day to day activities and we use energy in different forms. Out of all the forms of energy, electrical energy is the most important one as it can be generated efficiently, transmitted easilyand utilized ultimately at reasonable cost. The case of transmission of electric energy give rise to a possibility of generating electric energy in bulk at centralized place and transmit it over a long distance to be used ultimately by large number of users. [1] [2]

If it is necessary to generate in a small scale, just to light a house we can perhaps intuitively make the connections needed for a reasonably reliable and efficient operation. But it is necessary to generate in bulk then intuition cannot be used. .Itis important to followsystematic methodology to have reliable, efficient,economic and safe use of electric energy. The components used for generation, transmission and large scale distribution of electric energy form a
huge complex system termed as " Electric Power System". [1]

B.Power System Control

The role of power system control is to preserve system integrity and restore the normal operation subjected to a small or large disturbance. In other word , Power system control means maintaining the desire performance and stabilizing of the system following a disturbance, such as short circuit or loss of generation or load.[2] Energy is consumed in the electrical form but israther converted to other forms such as heat, light, and mechanical energy. The advantage of electrical form is that it can be transported and controlled easily and with high degree of efficiency and reliability. [2] Following are the fundamental requirement of properly designed and operated power. [2]

i. The system must be able to meet the continually changing load demand for active and reactive power.
ii. The system should supply energy at minimum cost and with minimum ecological impact.
iii. The quality of power supply must meet certain minimum standa4rds with regard to constancy of frequency, constancy of voltage and level of reliability

Hence 'Power system stability' is the ability of an electric power system, to remain in synchronism (come back to its normal operating conditions) under any type of disturbances like small , gradual and large disturbances. [2]

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Comparative Analysis of Simplex, Dual Simplex and Graphical Method of Optimization Technique Establishing Implementation of Optimization Tools In MATLAB.

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Abstract

Optimization technique plays an important role in real world problems. There are various Optimization technique consist of classical optimization method and advanced optimization methods which are very useful in number of application in each and every field to find the exact optimum solutions. The main focus of this work is based on the effect of optimization tools approach on simplex , dual simplex and graphical method of linear programming of optimization technique and comparison of tabular methods to find the best solution for same problem. Linear programming plays an important role in our lives. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration ..

By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution and also from the tabular calculations , we can find the best tabular optimization method to find the optimum solution.

Keywords: *simplex method , Dual simplex method , graphical method , optimization tools, optimal solution.*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical engineering, civil engineering, mechanical engineering etc as well as non engineering applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial , research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

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Spotting of Distribution Voltage Quality Annoyance in Distribution System

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Abstract

The most concerning issue for power engineers is power quality terms. Dynamic voltage restorer (DVR) is power quality enhancer and infuses voltage to distribution feeder in series to mitigate sag/swell. The study of detection and mitigation of voltage sag/swell is presented in this paper. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). This paper investigates the DVR controlled with SRF control methodology to compensate for sag/swell in different phase voltages is tested and Simulation analysis is carried out using MATLAB\SIMULINK.

Keywords: *Power quality, Voltage disturbances, Dynamic Voltage Restorer (DVR), Synchronous Reference Frame Theory (SRF).*

1. Introduction

Quality in power delivered to the load is termed as power quality. Unstressed load devices by upholding power factor, voltage and frequency gives good load performance. Upholding the power system parameters can eventually reduce system losses thus increasing the span of load devices. Issues regarding the power quality and their identification are addressed in this paper.

Voltage sag, voltage swell, differs in the shape of the curve alternative to sinusoidal influence the performance of power system. Sags and swells in voltage waveform are general in production units. This phenomenon yields loss to the production. Solution to this issue is to instrument the system to tolerate sags/swells using storage systems or intelligent management controls.

The study of detection and mitigation of sag/swell in voltage is presented. The sag/swell issue is mitigated using SRF (Synchronous Reference Frame Theory) controlled DVR (Dynamic Voltage Restorer). The realization of dynamic voltage restorer controlled by SRF methodology to lessen the voltage annoyance in different phase voltages is tested.

2. POWER SYSTEM NETWORK

The system of power network with sag/swell generation is shown in figure 1. Long duration and short duration disturbance in power network are very common in occurrence. If the disturbance duration is more than one minute it is termed as long duration and else short duration fault. Sag in voltage occurs with abrupt switching of heavy loads and swell occurs due to sudden switching of capacitor bank or abrupt load discharge.

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Integration of Wind Connection Low Frequency AC Transmission System using Back to Back Converters

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Abstract

The demand for worldwide electricity is projected to keep growing. As we know that resources are very limited, it is very important to save them for future generation in many aspects. One such limited element is land. We have 1/3 rd of earth is with the land and rest is covered with water. Since we have shortage of space everything cannot be done on the land itself. Now a day in developing countries power is the main demand and generation of power is done in very large scale which needs more land and equipment which leads to high capital investment. Keeping these points in view off shore wind power generation is proposed. By using off shore wind we can generate bulk amount of power generation. But it is facing high economical and technical challenges. The budget for offshore wind power has usually been higher than that of onshore wind generation, but costs have been decreasing quickly in recent years and in Europe has been price economical with conventional power sources since 2017.

The common off shore wind farms are grid connected via High Voltage AC (HVAC) transmission, the present researchers and industry experts are concentrating on cost effective transmission alternatives to present technologies. The future of transmission system focuses on finding the alternatives to transmit the maximum power at less cost. A novel Low Frequency AC (LFAC) Transmission System has proposed for transmission of bulk power over long distance (>100kms) by using an intermediate frequency with low investment cost.

This manuscript presents the one of the best approach of Low frequency AC transmission system technology interface the wind. The Low Frequency AC transmission system uses a 1/3rdof nominal frequency (20Hz/16.666Hz) than regular frequency (60Hz/50Hz) of main grids. The LFAC transmission was designed with Back-2-BackVSCs are selected as the most appropriate choice due to the technical benefits of Voltage Source Converters (VSC). An analysis to limit the optimum frequency for LFAC determines that between 100 km and 200 km the frequency lies in the range 20-16.67 Hz, showing the potential for LFAC.

The design, analysis and voltage control of the B2B converter based offshore wind connected LFAC system is modeled in Simscapein MATLAB.

Keywords: *We Voltage Source Converters (VSC), Line Commutated Converters (LCC),High Voltage Alternating Current (HVAC), High Voltage Direct Current (HVDC), Low Frequency AC Transmission System (LFAC) and Back to Back Converter (BtB).*

1. Introduction

Now a day it is very important to conserve environment as there are many consequences that have lead to the global warming. The demand of every individual in this raising population is rising every day. The demand is being increased from each individual to a country level. We need a large power to meet the demand of every country may be developing or developed. It is also very important to conserve fuel and decrease the emission of harmful gases. If we keep on using the resources in the same way there

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Impact Assessment of Generation and Transmission Investment on Spot Prices in Electricity Markets: A Study of MSETCL, India

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Abstract

Electric utilities worldwide have experienced a period of rapid changes especially in the market structure and regulatory policies. Under it, electric transport pricing can shape the level of competition in the electricity market. Spot pricing in this context is one of the effective schemes to achieve transmission pricing objectives.

The enactment of the Electricity Act 2003 has opened the door for wholesale electricity market in the Indian electricity sector. The success of Transmission Open Access (TOA) regulation in India needs to reconfirm the required infrastructure and appropriate pricing policy to promote competition in this sector. This paper aims at (1) the transmission pricing issues in general and Spot pricing in particular, (2) optimal Spot price formulation, (3) implementation of Spot pricing methodology over IEEE-30 Bus and real transmission network of Maharashtra State Electricity Transmission Company Limited (MSETCL) and (4) to assess the impact of generation and transmission investment on the Spot prices. Paper concludes that Spot pricing is easy to implement over real network situation and effective in achieving transmission pricing objectives.

Index Terms *– Open access, Electricity market, Optimal power flow, Spot pricing.*

I. INTRODUCTION

Electric utilities in several developed and developing countries have experienced a period of rapid changes especially in market structure and regulatory policies [11]. Under competitive electricity market, transmission has economies of scale, making this sector a natural monopoly that has to be regulated. Today the trend of electricity market is heading towards *Transmission Open Access (TOA)* whereby transmission providers will be required to offer the basic transmission service (i.e. operational and/or ancillary services) and transmission pricing [8]. To bring efficient use of the transmission grid and generation resources by providing correct economic signals, a Spot price theory for the restructured electric power system was developed [11].

The enactment of the Electricity Act (EA) 2003 has paved the way for undertaking comprehensive market reforms in the Indian electricity sector. The recently notified TOA, National Tariff Policy by Ministry of Power, Government of India seeks to achieve the objectives (1) to ensure optimal development of the transmission network, (2) to promote

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Effect of Optimization Tool Approach on Linear Programming Methods to Optimize Mathematical Manipulation

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Abstract: *The main target of this work is based on the effect of optimization tools on linear programming methods to optimize the mathematical calculations. Linear programming plays an important role in our lives. There are various methods to solve LPP, such as simplex, dual-simplex, Big-M, two phase and graphical method. In this, an approach is presented to solve LPP by considering the optimization tool of MATLAB and compare it with tabular methods of LPP. The complexity reduction is done by eliminating the large number of steps. By using proposed technique, the calculation part has been completely avoided and we can achieve the results in considerable duration. The objective function of linear programming problem (LPP) involves in the maximization and minimization problem with the set of linear equalities and inequalities constraints. By using optimization tool in MATLAB used for LPP, reduced to form of Linear programming (LP) problem. So practically, for large number of constraints & variables, it is not possible to solve these problems by tabular method.. It takes more computation time & iterations.. By using proposed technique, we can achieve the results in considerable duration & exact optimum solution.*

Keywords: *Linear programming problem, optimization tools, optimal solution, Tabular Method*

I. INTRODUCTION

Optimization technique is a mathematical approach to solve the problem for finding the best possible solution out of the available alternatives under the given circumstances. There are various applications of optimization in engineering field like in electrical engineering, civil engineering, mechanical engineering etc as well as non engineering applications like business, agriculture, manufacturing, production, transportation, investment policy etc. An application of optimization technique in all the fields to determine the best possible solutions to minimize the total present cost that will maximize the total profit and to minimize the total losses.

Linear programming is the most prominent optimization technique is applicable for the solution of real life problems in which the objective function and constraints are the linear functions of the decision variables. If there is no squared term, trigonometric functions, ratios of variables, then the problem is called a Linear Programming (LP) problem. It can be defined as a mathematical technique to determine the best optimal solution of any industrial, research problem to achieve best outcomes. The resources may be man, material, machine, land, etc. Most real life problems when formulated as an LP model consisting of more than two variables and therefore there is need of more efficient method to get optimal solution. So Optimization tool in MATLAB for LPP is very efficient, time consuming, most accurate tool to solve the LPP. For tabular calculation, it is necessary to identify separately and to solve by using according to the algorithm.

II. Algorithms Used

A. Simplex method

Simplex method is the most accurate method to solve the Linear Programming problem. It can be modified according to the nature of problem. It can be easily implemented on computers. It overcomes the limitations of graphical method. It can be solved with lesser number of constraints and work with less than or greater than or equal to constraints. It uses a tabular form of representing the numbers.

Algorithm:

1. The problem should be of maximization type, if it is minimization then convert it into maximization by multiplying -1 to the objective function.

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MANTECH Publications

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Mobile Biometric Attendance System

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Abstract

Attendance system plays vital role in any institution, schools and colleges where the record of their regularity is noted. In This concepts we have replace the traditional attendance system into moving automated biometric attendance system where teachers don't have to call students name for their attendance. A moving robot will come to student's place where he has to just place their finger on fingerprint Scanner. This concept will save time while taking attendance in manual system. There will be transparency and also authentication will be fully based on the students biometric so no issue of fake attendance. This will increase overall classroom attendance as biometric of students cannot be mismatched.

Keywords: *Raspberry pi, automated attendance, line following robot, Database*

INTRODUCTION

Nowadays digitalization is growing a trend in every sector. Digital India concept is also in trending for development. So one step forward towards digitalization, we are trying to replace our manual attendance system by Mobile Biometric Attendance System. Attendance is a concept that exists in different places like - institutions, organizations, hospitals etc. Traditional attendance paper based attendance systems are often lead to unnecessary time spent by teachers. Many times teachers pass the attendance sheet students to mark their attendance but this leads to issue of fake attendance where the students tend to answer or sign for their friends who are not present for that day.

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Available Transfer Capability Enhancement by Generator Participation Factor

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Abstract. Restructing has replaced the vertically integrated power system .Along with the benefits deregulation has brought some technical challenges like congestion. Available transfer capability (ATC) is a measure of how much MW power can be transmitted further over the already committed use, without violating the security constrains. Fast and accurate calculation of ATC is necessary for power transaction. Generator Participation Factor (GPF) is a measure of change in generator power as response to change in load demand .This paper focuses on calculation and enhancement of ATC using (GPF). Results are obtained on IEEE 6 bus system and validated on power world simulator.

Keywords: Restructuring, congestion , available transfer capability, power transfer distribution factor, generator participation factor.

1. Introduction:

In last few decades power system is getting restructured. It is replacing the monopoly of single entity with number of market participants [1-3].Given the choice; consumer can demand power from any generating company and thus creating competition. Privatization is only at generation side while transmission system still remains the same. While trading electricity one or more transmission line may be loaded to its maximum limit and thereby leading to network congestion. Congestion management is a major challenge in deregulated system [4].In order to avail all benefits as expected from restructured environment; sufficient trans-mission capability should be provided to satisfy the demand of increasing power transactions. Prior to any power transaction feasibility of capability of transmission network is to be determined first. Exact evaluation of transfer capability is very important for maximum use of transmission network.

It can be detected by evaluation of Available Transfer Capability (ATC) of the network. According to the North American Electric Reliability Council (NERC) ATC is the transfer capability remaining between two points above and beyond already committed uses [5]. The ATC value between two points is

$$ATC = TTC - TRM\{ETC + CBM\} \quad (1)$$

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Role of Electrical Power in Magnetic Maharashtra

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Abstract

The state hopes for investments of almost Rs 10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement, wishing to generate employment opportunities for nearly 35 lakh people in the state. In past couple of years, Maharashtra has achieved a new trajectory in bolstering the state's industrial output. This is evident in multiple reports released by reputed financial bodies that places the state ahead of the rest in Ease of Doing Business, as also statistics such as 50 per cent of infrastructural development of India being clocked in Maharashtra. To achieve the goal of Trillion Dollar economy, role of electrical power is vital or in another words we can say that electrical power is backbone of any industry.

Introduction

Magnetic Maharashtra Convergence Summit 2018 is Maharashtra's first Global Investors Summit and is being regarded as one of the biggest such events, especially on the lines of the 'Make In India' initiative launched by the Prime Minister in 2016 in Mumbai. Magnetic Maharashtra Convergence 2018 was a summit held in Mumbai, India on February 18–20, 2018. The event aimed to attract Investments of Rs.10 lakh crore (almost $156 billion) with as many as 5,000 Memorandums of Agreement to generate employment opportunities for nearly 35 lakh people in the state and it is being run with the tagline Made For Business.

To achieve this goal the role of Electrical Power in vital in terms to provide power to industries as well as to connect the nation in terms of Electrical Vehicles. The overall impact of the electric vehicle ultimately benefits the people. Compared to gasoline powered vehicles, electric vehicles are considered to be ninety-seven per cent cleaner, producing no tailpipe emissions that can place particulate matter into the air.[2]

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Energy Harvesting Trees

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Prof. P. M. Mankar

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Abstract

The energy harvesting trees are super eco-friendly synthetic trees will make use of renewable energy from the sun along with wind power, which are an effective clean and environmentally sound medium of gathering solar radiation and wind energy. The artificial trees are implanted with Nanoleaves, a composite of nano-photovoltaic nano-thermovoltaic and nano-piezo sources transforming light, heat and wind energy into eco-friendly electricity. The Nanoleaves transform the whole solar scale converting detectable light, infrared and Ultraviolet in a unification with piezo-electric generators that alter wind energy into electricity giving you efficient, cost efficient and attractive looking solutions, whilst providing the greatest electric power.

INTRODUCTION

Energy harvesting is defined as capturing minute amounts of energy from one ormore of the surrounding energy sources, accumulating them and storing them for later use. Energy harvesting is also called as power harvesting or energy scavenging. In the view point of energy conversion, human beings have already used energy harvesting technology in the form of windmill, watermill, geothermal and solar energy. The energy came from natural sources, called renewable energy, is emerged as future power source due to limited fossil fuel. Since the renewable energy harvesting plants generate kW or MW level power, it is called macro energy harvesting technology.Micro energy harvesting technology is based on mechanical vibration, mechanical stress and strain, thermal energy from furnace, heaters and friction sources, sun light or room light, human body, chemical or biological sources, which can generate mW or μW level power.

Energy harvesting as an alternative technique that has been applied to solved the problem of finite node lifetime and it refers to harnessing of energy from the environment or

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Night Vision Technology

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ABSTRACT-**In fourth industrial revolution, more people are turning to robotics because robots performs most significant role in every field and gives more precise output, which is consistent for different types of tasks. Objective of this study is to build a robotic arm to help the person facing the problem of writing disability; this robotic arm is coupled with a voice recognition system through which the person speaks in to the microphone and robot executes the writing operations automatically. This paper also depicts the essential plan of composing automated arm.**

KEYWORDS: *Robotic arm, Arduino Uno, Python, speech recognition.*

I. INTRODUCTION

A robotic arm is programmable mechanical device, which can perform simple tasks like pick and place, or more complex tasks diligently. Robotic arms are usually designed to simply the human efforts in the performance of a task. In this context, it will be interesting to devise a robotic arm which can assist a human who has a physical handicap for the purposes of writing. This can be achieved through the process of recognition of speech, which has been studied since 1950, and has progressed both in terms of algorithms and the equipment.

Proposed robotic arm is able to use by the physically handicap person for writing operation effectively. The robotic arm assembly consists of condenser microphone. The condenser microphone senses the spoken word from the person and transfers the weak signals. These signals are mandatory to be amplified. Following this signal conditioning, Analog to Digital Converter (ADC) converts the signals useful to the computer system. The central processing unit compares the input signals with predefined records of precise words and sound levels. As the signal levels of vocal word and stored word are matched, the control word passed to the mechanical assembly. The mechanical assembly consists of ARM2148 processor which controls the mechanism by means of actuating arrangement of three stepper motors. The three stepper motors are rotating along three mutually perpendicular axes. In general, human arm while writing moves in the three directions. In this developed robotic arm also, linear movement of the arm along three different directions is achieved by three stepper motors.

The next section presents the review of literature in two perspectives: (a) different algorithms for speech recognition, and (b) application modes of speech recognition.

II. LITERATURE SURVEY

(A) Speech recognition process through GUI can be categorized into the following categories [1-8]:

[1] **Hidden Markov Model (HMM):** HMM's are used extensively in speech recognition because of their consistency [5].

[2] **Artificial Neural Networks (ANN):** ANNs are similar to Markov Models, and use weights, connection strengths and functions. ANNs have been reported to have a high accuracy [3, 5]. The major challenge in ANNs is to find the weights.

[3] **Dynamic Time Wrapping (DTW):** DTW is an arrangement to compare between two different speaking speeds, and is often used to differentiate between the speaking signals of two different speakers. However, it has been reported that DTW have difficulty [6, 7].

[4] **Vector Quantization (VQ):** VQ is a technique which uses probability distribution functions for the quantization of signals. It has been reported that the VQ method is efficient [4, 8].

[5] **Mel's Frequency Cepstral Coefficient (MFCC):** MFCC is the most commonly used technique in automated voice recognition, since it is the easiest and simplest [6, 8].

(B) Comparative Analysis:

Speech recognition techniques have been adapted viz. using MATLAB, PIC, using GUI and using IoT. These applications are compared in Table 1. It is found that speech recognition IoT system is more accurate as compared to other three systems.

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Performance of Distance Relay inTransmission Line Protection

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Abstract—**The protection of multiterminal transmission lines is a challenging task due to possible infeed or outfeed currents contributed from the taped lines, As a result, the first zone reach of a non-communication-based scheme (e.g., impedance-based distance relays) usually cannot be extended more than a small portion beyond the tap point. This paper presents a various protection technique for multiterminal transmission line.**

Keywords— Multiterminal transmission line, protection.

I. INTRODUCTION

The North American power system consists of thousands of high voltage transmission lines (TL) transmitting electrical power between generators and load centers which represent the foundation of the power system. The majority of transmission line construction is of overhead type and therefore, is easily susceptible to various transient and permanent faults. These faults can lead to damage of the line itself and can cause power system instability. It is of the utmost importance that protective relay systems are capable of clearing all faults within the designed operating time, and have a high degree of dependability and security.

Typically, there are three types of line configurations used within the industry. These line configurations include radial configuration that are (a) one-terminal, (b) two-terminal, and (c) multi-terminal of which three-terminal is possibly the most prominent multi-terminal type. It should be noted that "terminals" in this context, refers to source terminals and not-tapped transformer terminals or stations. The two-terminal line configuration is the most dominant type followed by radial, and the three-terminal lines are the exceptions.

Three-terminal and other multiterminal line construction projects are generally a trade-off of planning economics and protection complexities, and can lead to compromises in reliability. Two-terminal lines with long tap(s) supplying remote load from the main line may display many of the same protection and loadability issues as three-terminal lines. These types of configurations and those with multiple tapped transformer stations (low voltage tie breaker closed) are beyond the scope of this discussion. However, it should be noted that some of the same types of complexities may be experienced with these types of configurations as three-terminal lines. The complexity of protecting these line configurations increases from the relatively simple radial, to the more difficult two-terminal, and to the still more difficult three-terminal. Relaying three-terminal lines has been and continues to be a challenge for protection engineers.

There are a number of factors that influence the decision to configure a transmission line with three terminals, such as economics, constrained lead time, regulatory approvals, right-of-way (RoW) availability, line overloads, and system performance requirements.

- There is an economic benefit in the construction of three terminals because it avoids the expense of all or a portion of a substation and typically reduces the transmission line miles.
- Use of three-terminal lines may be more expeditious in Add-ressing system needs.
- Right-of-way may be limited or not obtainable for new lines and stations.
- Regulatory approvals may be problematic. There may be opposition to the construction of new facilities and the construction of a three-terminal line may reduce the over-all project impact.
- Three-terminal line configuration may mitigate the possibility of transmission line overloads due to single contingency events. However, this is very dependent on system topology.

The differential relaying scheme using a communication link between the TL ends could provide a secure protection for multiterminal TLs [1]–[3]. However, the reliability of such a protection scheme depends upon the reliability of the communication link. Moreover, the measurement infrastructure of the tapping lines could be poor or there could be no communication channel for sending measurements from the far end of the tapping lines [4]. Therefore, a protection algorithm, which is based only on the local information obtained at the relay bus, is greatly useful for the protection of multiterminal TLs. Even when a quite reliable communication-based technique is employed for the protection of a TL, a second relay, which makes the decision only based on the local information, would be helpful to increase the reliability of the protection scheme.

The conventional TL protection schemes (e.g., distance relays) are based on the fundamental frequency components of the fault signals. It is well known that the fundamental frequency components of the local signals do not provide the sufficient information required for discriminating between the internal and external faults for a multiterminal TL. This is due to the fact that the infeed or outfeed currents contributed from the tap points could affect the fault-loop impedance estimated by a distance relay. As a result, the distance relay may under-reach or overreach depending on the transmission system configuration and parameters [5].

The fault-induced high-frequency (HF) transients contain extensive information about the fault by which the fault

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Spot Price Forecasting in a Restructured Electricity Market: An Artificial Neural Network Approach

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Abstract: ***In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability. Market participants use price forecasts to decide their bidding strategies to maximize their profits in the day-ahead market. Generating companies have to make decisions regarding unit commitment. Suppliers and consumers use price forecasts to optimize the proportion of forward market and bilateral contracts in their asset allocations. Facility owners use the long-term price trends to ensure recovery and profitability of their investments in generation, transmission, and distribution. This study demonstrates electricity spot price forecasting in day-ahead electricity market based on Artificial Neural Network (ANN) approach. Recently ANN techniques are emerged as the best technique and suitable for restructured power system problems. This study used Feed-Forward Neural Network (FFNN) and Radial Basis Neural Network to forecast electricity spot prices. The results are computed and compared for standard IEEE-57 Bus system. More accurate price forecasting is obtained using RB neural network based on several statistical errors.***

IndexTerms: Electricity Restructuring, Spot Price, Artificial Neural Network, Forecasting

I. INTRODUCTION

In several decades, worldwide countries have spent substantial resources and efforts on implementing market-oriented restructuring in their electric power sectors. The desired objective under such regime is to achieve a more efficient power system facilitated by competition. A good and sustainable pricing scheme becomes a key issue in order to achieve efficient competition. In restructured electricity markets, market participants' mainly utilities, power producers, and traders are shown to increased risks due to spot price volatility. Accuracy of electricity price forecasting mainly affected by network congestions, use of renewable sources, system security, increasing loads due to appliance, weather dependency, market coupling, and global financial instability [1-2]. Market participants need to forecast short-term, mainly day-ahead, prices to maximize their profits in spot markets. These price forecasting facilitates market participants in terms of negotiations of bilateral contracts, hedge against risks of price volatility in spot markets, to ensure return on investment in electricity generation, transmission and distribution.

Today the electric power industry has entered in an increasingly competitive environment under which it becomes more realistic to improve economic efficiency and reliability with affected market forces [3]. Electricity Spot pricing in such an environment has now been emerged as an important mode of energy pricing [4]. Electricity spot prices reveal vital information to the market participants about their bidding and risk assessment strategies and Independent system operators about to perform market dispatch and market decisions through market clearing price under network congestion.

One of the applications of electricity spot pricing in deregulated regime is to accurately predict the electricity prices. Market participants need information about short-term price forecasting i.e. day-ahead to maximize their profits in spot markets, medium term price forecasting to negotiate bilateral contracts so that they can hedge against risks of price volatility in spot market. Generators and transmission owner needs long-term price trends to ensure investments recovery in the facility planning [5]. Also, forecasted prices provide system operators to predict possible exercises of market power and detect gaming behaviors leading to unreasonable prices.

In past decades, several hard computational techniques like time series models, auto regressive and auto regressive integrated moving average (ARIMA) models have been used to forecast electricity prices. Though these techniques are found accurate, but are limited to a large amount of historical information and the computational cost [6]. Recently generalized autoregressive conditional hetero-skedastic (GARCH) model [7-8] and the Wavelet-ARIMA technique have also been proposed. Apart from this, some soft computational techniques based on Artificial Intelligence approach also been proposed to improve the performance of price

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Department of Civil Engineering

Conference/ STTP/Training/ Workshop Attended (2019-20)

SN	Name of Faculty	Name of Conference/ STTP/Training/ Workshop	Date/Duration/Venue
1	Dr. Mohammad Zuhair	Introduction to FEM & its appl^{n} to CE	26 May 2020/ PRPCEM Amravati
2	Dr. Mohammad Zuhair	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
3	Dr. Mohammad Zuhair	Green soil improvement	28 May 2020/ PRPCEM Amravati
4	Dr. Mohammad Zuhair	Structural planning and design	29 May 2020/ PRPCEM Amravati
5	Dr. S. S. Saraf	Structural Health Monitoring and Auditing	24-28 June 2019/ GCOE, Nagpur
6	Dr. S. S. Saraf	Outcome Based Education A Step Towards Excellences	11 – 15 May 2020/ GCOE ,Karad
7	Dr. S. S. Saraf	Introduction of Accreditation Mechanism & NBA Approach	11 – 15 May 2020/ VBKCE, Malkapur
8	Dr. S. S. Saraf	Introduction to FEM & its appl^{n} to CE	26 May 2020/ PRPCEM Amravati
9	Dr. S. S. Saraf	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
10	Dr. S. S. Saraf	Green soil improvement	28 May 2020/ PRPCEM Amravati
11	Dr. S. S. Saraf	Structural planning and design	29 May 2020/ PRPCEM Amravati
12	Mr. N. P. Bhopale	Theories of Beams & Plates	2 – 3 May 2020/ GHRCEM, Pune
13	Mr. N. P. Bhopale	Health & Happiness Workshop For Engineers	7-8 May 2020 /Prof. Ram Meghe CoE & M. Badnera
14	Mr. N. P. Bhopale	Outcome based education: A step towards excellence	11- 15 May 2020/ GCoE. Karad
15	Mr. N. P. Bhopale	Advances in Pile foundation ,Construction and Design	08- 12 June 2020 /RCE&M Nagpur
16	Mr. N. P. Bhopale	Research Methodology	26-30 May 2020/ V.B.Kolte CoE Malkapur
17	Mr. N. P. Bhopale	Outcome based education & NBA accrediation process	08- 12 June 2020/ PRPCEM Amravati

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Conference/ STTP/Training/ Workshop Attended (2019-20)			
18	Mr. N. P. Bhopale	Recent Advances in Geotechnical Engineering	05- 07 May 2020/ RCEM Nagpur
19	Mr. N. P. Bhopale	Patents and Intellectual Property Rights	10 June 2020/ RMD Sinhgad SoE Warje
20	Mr. N. P. Bhopale	Geotechnical Investigation Parameters	16 May 2020/ SIEM, Nashik
21	Mr. N. P. Bhopale	Earthquake Resistant Design of Structures	13-14 May 2020/ GCoE, Aurangabad
22	Mr. N. P. Bhopale	Cracks in Building and their Significance	27 April 2020/ GCoE, Nagpur
23	Mr. N. P. Bhopale	Introduction to FEM & its appl^{n} to CE	26 May 2020/ PRPCEM Amravati
24	Mr. N. P. Bhopale	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
25	Mr. N. P. Bhopale	Green soil improvement	28 May 2020/ PRPCEM Amravati
26	Mr. N. P. Bhopale	Structural planning and design	29 May 2020/ PRPCEM Amravati
27	Mr.A.K.Chitkeshwar	Role of Drones in Water Management	16 May 2020/ ACE, Sangamner
28	Mr.A.K.Chitkeshwar	Outcome based education and NBA Accreditation	5 May 2020/SITS Narhe
29	Mr.A.K.Chitkeshwar	Career opportunities after civil engineering	18 May 2020/ ACE, Sangamner
30	Mr.A.K.Chitkeshwar	Energy Dissipating Devices for Seismic Response control	19 May 2020/ ACE, Sangamner
31	Mr.A.K.Chitkeshwar	Use of Construction Chemicals in Construction Industry	20 May 2020/ RIT, Rajaramnagar
32	Mr.A.K.Chitkeshwar	Legal Aspects of civil engineering	21 May 2020/ DACE, Karad
33	Mr.A.K.Chitkeshwar	Forensic structural engineering	3 May 2020/ KDKCE, Nagpur
34	Mr.A.K.Chitkeshwar	Introduction to FEM & its appl^{n} to CE	26 May 2020/ PRPCEM Amravati
35	Mr.A.K.Chitkeshwar	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
36	Mr.A.K.Chitkeshwar	Green soil improvement	28 May 2020/ PRPCEM Amravati
37	Mr.A.K.Chitkeshwar	Structural planning and design	29 May 2020/ PRPCEM Amravati
38	Mr. S.V.Dhoke	Recent Advances in Civil Engineering	02ndJune to 07th June 2020/ VJTI, Mumbai

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39	Mr. S.V.Dhoke	Innovation and upgradation in Infrastructural Technology	27th May to 02nd June 2020/ TCET, Navi Mumbai
40	Mr. S.V.Dhoke	Outcome based Education and NBA accreditation Process	8th June to 12th June 2020/ PRPCEM, Amt
41	Mr. S.V.Dhoke	Introduction to FEM & its applⁿ to CE	26 May 2020/ PRPCEM Amravati
42	Mr. S.V.Dhoke	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
43	Mr. S.V.Dhoke	Structural planning and design	29 May 2020/ PRPCEM Amravati
44	Mr. S.V.Dhoke	Green soil improvement	28 May 2020/ PRPCEM Amravati
45	Mr. S.V.Dhoke	Innovation for present and future	31 May 2020/ PRPCEM Amravati
46	Mr. M .A. Rehman	Outcome based Education: Teaching learning process & NBA evaluation	02-06 Dec 2019/ PRMIT&R,Badnera
47	Mr. M .A. Rehman	Recent advances in Civil Engineering	02-07 June 2020/ VJTI Mumbai
48	Mr. M .A. Rehman	Research methodology: Tools & Techniques.	18-22 May 2020/ IILM CET, Noida
49	Mr. M .A. Rehman	Effective proposal writing for research and funding	15-16 May 2020/ Sandip Foundation,SIT&RC Nashik
50	Mr. M .A. Rehman	Innovation and up-gradation in Infrastructural technology	07-02 June 2020/ TEC , Mumbai
51	Mr. M .A. Rehman	Advanced practices in Civil Engineering & Management	25-29 May 2020 /RGITR Amravati
52	Mr. M .A. Rehman	Scilab	08-13 June 2020/ JD college of Engineering Nagpur
53	Mr. M .A. Rehman	Earthquake resistant design of building	03 June 2020/ ACROPOLICE wisdom
54	Mr. M .A. Rehman	ANSYS application for civil engineers	28 May 2020/ GCE Nagpur
55	Mr. M .A. Rehman	Post COVID scenario of technical education & industry recruitment	30 May 2020/ Sipna Amravati
56	Mr. M .A. Rehman	E-Expert talk on progress of concrete science since the time of Duff A Abrams	07 May 2020/ ICI KDKCOE Nagpur
57	Mr. M .A. Rehman	Introduction to FEM & its applⁿ to CE	26 May 2020/ PRPCEM Amravati
58	Mr. M .A. Rehman	Damped dynamic systems	27 May 2020/ PRPCEM Amravati
59	Mr. M .A. Rehman	Structural planning and design	29 May 2020/ PRPCEM Amravati
60	Mr. M .A. Rehman	Green soil improvement	28 May 2020/ PRPCEM Amravati

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Conference/ STTP/Training/ Workshop Attended (2019-20)			
61	Mr. M .A. Rehman	Innovation for present and future	31 May 2020/ ACROPOLICE wisdom
62	Mr. M. S. Deshmukh	Outcome based education: A step towards excellence	11- 15 May 2020/ GCoE. Karad
63	Mr. M. S. Deshmukh	Industry scenario after COVID-19	20-21 May 2020/ GGSCERC,Nashik
64	Mr. M. S. Deshmukh	Waste to energy; an emerging field for engineering professionals	6 May 2020/ SRCEM, Nagpur
65	Mr. M. S. Deshmukh	They graduated in learning you graduated in teaching	7 May 2020/ SRCEM, Nagpur
66	Mr. M. S. Deshmukh	Fire fighting system and norms	10 May 2020/ SRCEM, Nagpur
67	Mr. M. S. Deshmukh	Legal advices in construction Industry	5 May 2020/ SRCEM, Nagpur
68	Mr. M. S. Deshmukh	New building Products	8 May 2020/ SRCEM, Nagpur
69	Mr. M. S. Deshmukh	Use of Construction Chemicals in Construction Industry	20 May 2020/ RIT, Rajaramnagar
70	Mr. S.V.Pawar	TEQIP-III sponsored One Week Faculty Development Program on "QGAD"	9-13May,2020/ Sinhgad ITSN, Pune
71	Mr. S.V.Pawar	Outcome based education: A step towards excellence	11- 15 May 2020/ GCoE. Karad
72	Mr. S.V.Pawar	Introduction of Accreditation Mechanism & NBA Approach	11- 15 May 2020/ Dr. V. B. Kolte CE, Malkapur
73	Mr. S.V.Pawar	Introduction to Forensic Science and Digital & Cyber Forensics	15- 19 May 2020/ GIFS,NAGPUR
74	Mr. S.V.Pawar	Research Methodology	26-30 May 2020/ V.B.Kolte CoE Malkapur
75	Mr. S.V.Pawar	Advances in Civil Engineering	26-30 May 2020/ NIT, Nagpur
76	Mr. S.V.Pawar	Outcome Based Education And NBA Accreditation Process	8- 12June 2020/ PRPCEM, Amt
77	Mrs R.S.Pagrut	Earthquake Engineering	8 June 2020/ISET

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78	Mrs R.S.Pagrut	Earthquake Resistant design of structures	13-14 June 2020/ISET
79	Mrs R.S.Pagrut	Relevance of site effect in earthquake resistant construction	23 June 2020/ISET
80	Mrs R.S.Pagrut	Seismic Hazard Assessment	27 June 2020/ISET
81	Mrs R.S.Pagrut	Innovation for present & future	31 May 2020/PRPCEM AMT
82	Mrs R.S.Pagrut	Engineering preparedness for earthquake disaster mitigation	3 June 2020/ISET
83	Mr. C. S. Bidwaik	Strengthening And Retrofitting by Dr.R.Pradeep Kumar	25 April 2020/ ACC Cement
84	Mr. C. S. Bidwaik	Analysis and Design by using E-TAB-A Practical Approch	1- 2 May 2020/ PRPCEM Amravati
85	Mr. C. S. Bidwaik	Forensic Structural Engineering by Ranjith Dissanayake	3 May 2020/ KDKCE Nagpur
86	Mr. C. S. Bidwaik	Progress of Concrete Science Since the Time of Duff A Abrams	7 Feb 2020/ KDKCE Nagpur
87	Mr. C. S. Bidwaik	Outcome Based Education: Astep Towards Excellence	11- 15 May 2020/ GCOE ,Karad
88	Mr. C. S. Bidwaik	"Outcome based Education and nba accreditation process"	8 to 12/6/2020 / PRPCEM ,Amravati
89	Mr. C. S. Bidwaik	Earthquake Engg. & Technology	9 Feb 2020/ ISET Suratkal,
90	Mr. C. S. Bidwaik	Design of pipeline network by 3D	19 May 2020/ Autodesk
91	Mr. C. S. Bidwaik	Legal Aspect of Civil Engineering	22May 2020/ DACE Karad
92	Mr. C. S. Bidwaik	Relevance of Site Effect in Earthquake Resistant Construction	23May 2020/ ISET Suratkal,
93	Mr. C. S. Bidwaik	Environment Friendly and Sustainable Building Materials-An Overview	23 May 2020/ KDKCE Nagpur
94	Mr. C. S. Bidwaik	Introduction to FEM & its appl^{n} to CE	26 May 2020/ PRPCEM Amravati
95	Mr. C. S. Bidwaik	Damped dynamic systems	27 May 2020/ PRPCEM Amravati

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96	Mr. C. S. Bidwaik	Green soil improvement	28 May 2020/ PRPCEM Amravati
97	Mr. C. S. Bidwaik	Structural planning and design	29 May 2020/ PRPCEM Amravati
98	Mr. C. S. Bidwaik	Want to be change Agent	30 May 2020/ PRPCEM
99	Mr. C. S. Bidwaik	Innovation for Present & Future	31May2020 / PRPCEM

P. R. Pote Patil

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This is to certify that

Suhas Vasantrao Pawar

has attended Webinar on

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Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

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Certificate

This is to certify that

Mohammad Abdul Rehman

has attended Webinar on

Structural Planning & Design

held on 29/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Mohammad Abdul Rehman

has attended a Webinar on Innovation for Present & Future by Resource Person Mr. Nilesh Rambhau Rahate (Architect & Product Designer) held on 31/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Mohammad Abdul Rehman

has attended Webinar on

Green Soil Improvement

held on 28/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

GOVERNMENT COLLEGE OF ENGINEERING NAGPUR
DEPARTMENT OF APPLIED MECHANICS

e-Certificate of Participation

This is to certify that

Mohammad
Abdul Rehman

has attended Webinar on
"ANSYS Applications for Civil Engineers" by
Dr.Tushar Sharma, Application Engineer, ARK Infosolutions Pvt.Ltd.
held on 28/05/2020.

Dr.Kshitija N.Kadam
(Dean R & D)

Dr.N.D.Ghawghawe
I/C Principal

336

SANDIP FOUNDATION

Sandip Foundation's

Sandip Institute of Technology & Research Centre, Nashik.

CGPA Score:3.11

Accredited by NAAC 'A' Grade, CGPA Score 3.11 | Approved by AICTE & Affiliated to SPPU, Pune | Recognised by Govt. of Maharashtra

CERTIFICATE OF PARTICIPATION

This is to certify that

Mohammad Abdul Rehman

has actively participated and successfully completed **One Week Online Faculty Development Programme** on

"Effective Proposal Writing for Research and Funding"

organized by **Department of Electronics & Telecommunication Engineering** In association with **IEEE Women in Engineering**

from 13th May to 18th May 2020.

Dr. Omkar S. Vaidya	Dr. Gayatri M. Phade	Dr. Sanjay T. Gandhe
FDP Coordinator	Head, Dept. of E&TC, SITRC	Principal, SITRC

Certificate ID : 9MURAO-CE000268

235

TEQIP-3

Veermata Jijabai Technological Institute (VJTI), Mumbai
and
Engineering College Ajmer, Rajasthan

This is to certify that

Mohammad Abdul Rehman

has participated and successfully completed TEQIP-III Sponsored One week Online FDP on **"Recent Advances in Civil Engineering"** organized by **Civil & Environmental Engineering Department, VJTI Mumbai** under twinning activity with **Civil Engineering Department, Engineering College Ajmer, Rajasthan** during June 02nd to 07th 2020.

Mr. Dhruv Saxena
FDP Co-ordinator,
Civil Engg. Deptt.,
Engg. College Ajmer,
Rajasthan

Dr. Vikas B. Varekar
FDP Co-ordinator,
Civil & Env. Engg. Deptt.,
VJTI, Mumbai

Dr. Ganpat Singh
HOD,
Civil Engg. Deptt.,
Engg. College Ajmer, Rajasthan

Dr. Sumedh Y. Mhaske
HOD,
Civil & Env. Engg. Deptt.,
VJTI, Mumbai

Dr. H. S. Mewara
TEQIP Co-ordinator,
Engg. College Ajmer, Rajasthan

Dr. R. N. Awale
TEQIP Co-ordinator,
VJTI, Mumbai

This is an electronically generated Certificate and doesn't require signatures.

GBDRQG-CE000183

DEPARTMENT OF APPLIED MECHANICS
GOVT. COLLEGE OF ENGINEERING,
Station Road, Osmanpura, AURANGABAD - 431 005 (M.S.)
"In Pursuit of Global Competitiveness"
: (0240) 2366160, 2366111,2334348 Fax: (0240) 2332835
E-mail: drlondhe07@gmail.com Web: http://www.geca.ac.in

Date: 16.05.2020

CERTIFICATE

This is to place on records and appreciate the participation of – Nilesh Bhopale , P R Pote Patil CoE and M Amravati, Amravati in the

2-days webinar titled

"Earthquake –Resistant Design of Structures", *organized by Department of Applied Mechanics, during 13th & 14th May , 2020.*

Dr. R. S. Londhe
Professor & Head
Department of Applied Mechanics
Govt. College of Engineering,
Aurangabad

Dr. [illegible] B. Mumal
Principal
Govt. College of Engineering,
Aurangabad



INDIAN CONCRETE INSTITUTE AMRAVATI CENTER

In Association with

Department of Civil Engineering

Prof Ram Meghe College of Engineering & Management, Badnera

New Express Highway, Badnera - Amravati - 444701 (MS) https://prmceam.ac.in

Certificate of Participation

Awarded to Mr./Miss. Nilesh P Bhopale

on Successful Completion of Four day Workshop on

"Health & Happiness for Engineers"

held Online during 6 May to 9 May 2020.

Prof. P. V. Khandve
Head
Department of Civil Engineering
PRMCEAM, Badnera

Prof. A. P. Dange
Chairman
Indian Concrete Institute
Amravati Center

238

Government College of Engineering, Karad

(An Autonomous Institute of Government of Maharashtra)
Vidyanagar Karad Dist.-Satara Maharashtra, PIN- 415 124.
Website: www.gcekarad.ac.in Email: principal@gcekarad.ac.in

AICTE-MARGDARSHAN SCHEME

CERTIFICATE

This is to certify that Mr./Ms./Dr. *NILESH P BHOPALE of P R POTE PATIL COE AND M AMRAVATI* has attended one week online Faculty Development Program on "**OUTCOME BASED EDUCATION: A STEP TOWARDS EXCELLENCE**" from 11-15 May 2020 under Margdarshan Scheme of AICTE, New Delhi.

Please scan the QR code for validation this certificate.

Mr. K. K. Mate	Dr. S. S. Mulik	Dr. U. V. Patil	Dr. S. P. Deshmukh	Dr. P.M. Joshi	Dr. A. T. Pise
Coordinator, PCCOER, Pune	Coordinator, RMDSSOE, Pune.	Coordinator, GCE, Karad.	Convener, GCE, Karad.	Convener, GCE, Karad.	Principal, GCE

Your Certificate No is : OBEGCEK-00701

239

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

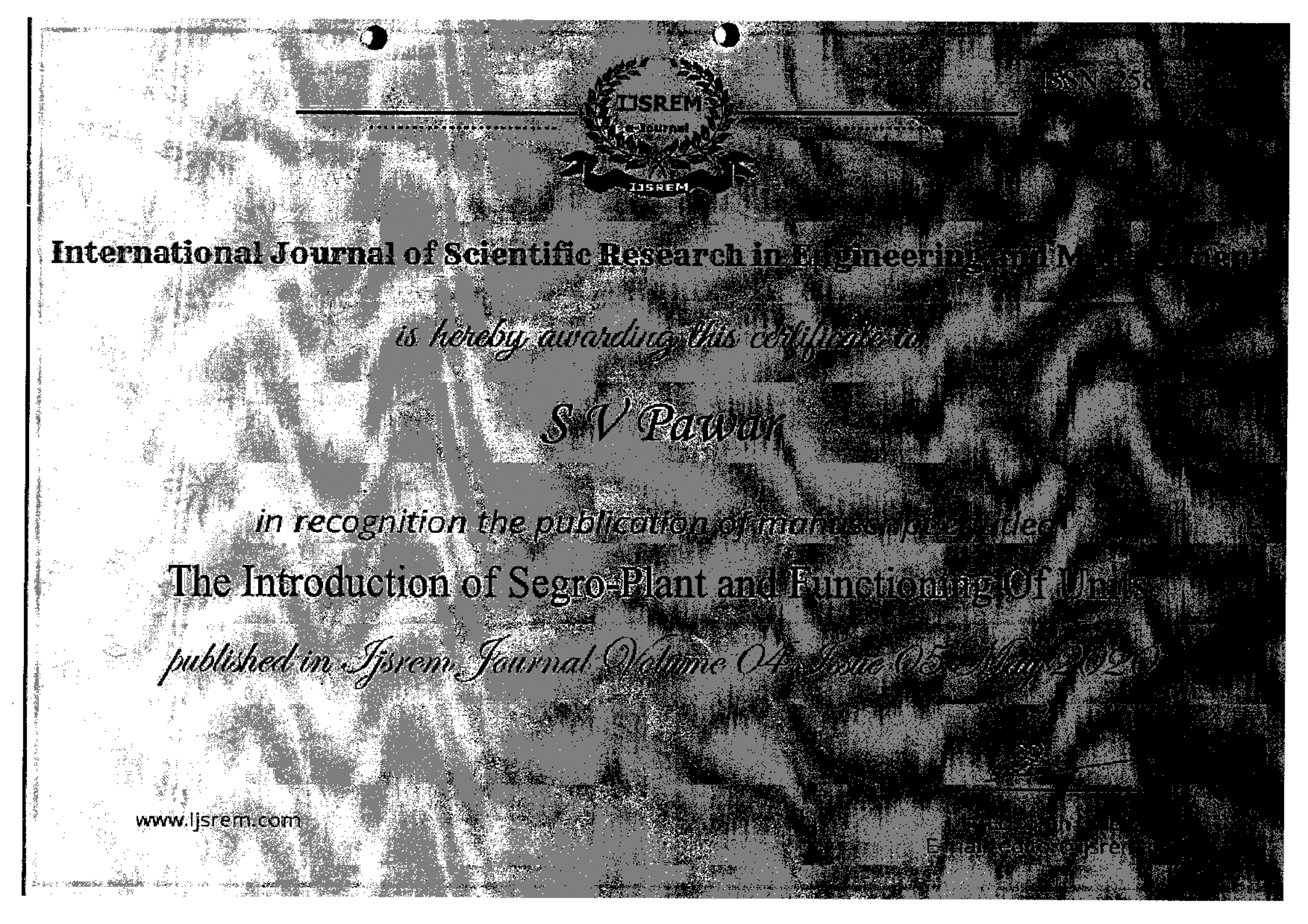
Nilesh P Bhopale

has attended Webinar on

Green Soil Improvement

held on 28/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil


IJSREM
International Journal of Scientific Research in
is hereby awarding this certificate to
S.V Pawar
in recognition the publication of manuscript titled
The Introduction of Segro-Plant and Functioning Of
published in Ijsrem Journal Volume 04 Issue 05 May 2022
www.ijsrem.com

INDIAN CONCRETE INSTITUTE, AMRAVATI CENTER

C/o Civil Engineering Software Center, Gulshan Plaza
Rajapeth, Badnera Road, Amravati – 444601 (M.S.) India
Email: ici.amravati@gmail.com, website: www.indianconcreteinstitute.org

PVKT

342

CERTIFICATE OF PARTICIPATION

This is to certify that

Suhas Vasantrao Pawar

has successfully participated in the **ICI CONCRETE KNOWLEDGE TEST – 2020**
in Association with PROVEN VICTORY KNOWLEDGE TECHNIQUES
conducted online on 3rd May 2020 between 9.00 AM to 9.00 PM on the occasion of "Maharashtra Day"
for Creating Quality Consciousness in People about CONCRETE.

Er. P. V. Khandve	Er. A. M. Gilda	Er. A. P. Dange
Treasurer	Secretary	Chairman
ICI, Amravati Center	ICI, Amravati Center	ICI, Amravati Center

ICI 2020

ID -569 pawars86@gmail.com, 9421318404

RAISONI GROUP
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G H Raisoni College of Engineering and Management, Pune

http://www.ghrcem.raisoni.net **DTE Code : 6155**

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

PUNE

CERTIFICATE OF PARTICIPATION

This certificate is awarded to

SUHAS VASANTRAO PAWAR

for successfully attended the

2 days Refresher Course on

"Theories of Beams & Plates"

2nd & 3rd May 2020

343

Dr. A. G. Dahake	Dr. D. M. Yadav	Dr. V. S. Hendre	Dr. S. N. Mali
Convener	Dean (Academics)	Deputy Director	Director

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RAISONI GROUP OF INSTITUTIONS

K. D. K. College of Engineering, Nagpur

Department of Civil Engineering

E Certificate of Participation

This is to certify that

Suhas Vasantrao Pawar

has participated in Webinar (Online Expert Talk) on

***"Progress of Concrete Science Since the Time of Duff A. Abrams"* by**

Dr. Bishwajit Bhattacharjee, Professor, I I T Delhi.

on Dated 7th May 2020

Er. Mueen Khan	Er. Arun Uttarwar	Dr. V. P. Varghese	Dr. A. M. Badar	Dr. D. P. Singh
Reg. Customer Service. Head (West)	Chairman, ICI (NC)	HOD, Department of Civil Engineering	Vice-Principal KDKCE	Principal, KDKCE

244

Online Participation Record

S. V. Pawar

(Insert name of online participant above line, can be self-attested or attested by teacher, department head or supervisor)

345

Online Workshop on Recent Advances in Science and Technology of Concrete

9:30 – 14:00 IST (+5:30 GMT)
Saturday, 2nd May 2020

Organized by
Indian Institute of Technology Madras, Chennai, India

Radhakrishna G. Pillai
Chair, Indian Concrete Institute, Chennai Chapter

Manu Santhanam
Head, Dept. of Civil Engineering, IIT Madras

Ravindra Gettu
President, RILEM

G. K. GUJAR MEMORIAL CHARITABLE TRUST'S

DR. ASHOK GUJAR TECHNICAL INSTITUTE'S

DR. DAULATRAO AHER COLLEGE OF ENGINEERING, KARAD

Freedom Fighter
Late G. K. Gujar

Certificate of Appreciation

This is to certify that,

Suhas Vasantrao Pawar

For participating in a webinar series from 21 May 2020 to 22 May 2020 on

"Legal Aspects of Civil Engineering"

by Dr. Madhav B. Kumthekar (Principal, Govt. COE, Nagpur)

organized by

Department of Civil Engineering

Dr. A. M. Zende	Prof. H. M. Kumbhar	Dr. A. M. Mulla
Coordinator & HOD	Vice-Principal	Principal

Certificate id : ZDDXVS-CE000564

346

G. K. GUJAR MEMORIAL CHARITABLE TRUST'S

DR. ASHOK GUJAR TECHNICAL INSTITUTE'S

DR. DAULATRAO AHER COLLEGE OF ENGINEERING, KARAD

Freedom Fighter
Late G. K. Gujar

Certificate of Appreciation

This certificate is proudly presented on 5/27/2020 to

Suhas Vasantrao Pawar

For participating in a webinar on

"Research Opportunities in the field of Technology"

by Dr. Vikas M. Phalle (Ph.D, I.I.T Roorkee)

organized by

Mechanical Engineering Department

Prof. S. D. Bagade	Prof. S. J. Mulani	Prof. H. M. Kumbhar	Dr. A. M. Mulla
Coordinator	HOD	Vice-Principal	Principal

Certificate id : DN7HEC-CE000230

347

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ADDING VALUE TO ENGINEERING

Engineering Science Department

CERTIFICATE OF PARTICIPATION

This is to Acknowledge that

Suhas Vasantrao Pawar

from

P. R. Pote Patil College of Engg and Management Amravati

has successfully completed the One Week Faculty Development program on "**Amplifying Proficiency in Advanced Civil Engineering**" From 27 July to 31 July 2020 , Organized by Engineering Sciences Department, AISSMS IOIT, Pune

Atitya Khan Pathan	Anjali Diwalkar	Amit Raheja	Gayatri Mavale
Coordinator	**Coordinator**	**Coordinator**	**Coordinator**

Dr. P. G. Musrif
HOD(Engg. Science)

Dr. P. B. Mane
Principal

CERTIFICATE

PROUDLY PRESENTED TO

Suhas Pawar

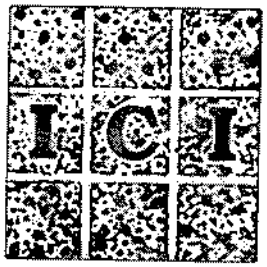
Session-1: Topic on "ALL ABOUT WHITETOPPING"
& Session-2: Topic on "Staying relevant and maintaining competitive Advantage

May 6, 2020

Date of Completion

Indian Concrete Institute-Bangalore centre

Organizer



349

Sinhgad Institutes

Sinhgad Technical Education Society's
Sinhgad Institute of Technology and Science, Narhe , Pune -41

CERTIFICATE OF APPRECIATION

This is to certify that

Suhas Vasantrao Pawar

Has completed the "Faculty Awareness Programme on Outcome Based Education (OBE) and NBA Accreditation" organised by Sinhgad Institute of Technology and Science, Narhe,Pune on 5-5-2020.

Certificate Id : U8YP88-CE001240

Dr. R. S. Prasad
Principal

350

Government College of Engineering, Karad

(An Autonomous Institute of Government of Maharashtra)
Vidyanagar Karad Dist.-Satara Maharashtra, PIN- 415 124.
Website: www.gcekarad.ac.in Email: principal@gcekarad.ac.in

AICTE-MARGDARSHAN SCHEME

CERTIFICATE

This is to certify that Mr./ Ms. / Dr. *Chetan Sureshrao Bidwaik of P.R.Pote Patil College of Engineering and Management,Amravati* has attended one week online Faculty Development Program on **"OUTCOME BASED EDUCATION: A STEP TOWARDS EXCELLENCE"** from 11-15 May 2020 under Margdarshan Scheme of AICTE, New Delhi.

Please scan the QR code for validation this certificate.

Mr. K. K. Mate	Dr. S. S. Mulik	Dr. U. V. Patil	Dr. S. P. Deshmukh	Dr. P.M. Joshi	Dr. A. T. Pise
Coordinator, PCCOER, Pune	Coordinator, RMDSSOE, Pune.	Coordinator, GCE, Karad.	Convener, GCE, Karad.	Convener, GCE, Karad.	Principal, GCE, Karad.

Your Certificate No is:OBEGCEK-04991

257

ISSN

IJSREM

IJSREM

International Journal of Scientific Research in Engineering and Management

is hereby awarding this certificate to

C S Bidwaik

in recognition the publication of manuscript entitled

The Introduction of Segro-Plant and Functioning Of Unit

published in Ijsrem Journal Volume 04 Issue 05 May 2022

www.ijsrem.com

Editor in Chief

E-mail: editor@ijsrem

P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, **Prof.Chetan Sureshrao Bidwaik** of **P.R.Pote Patil College of Engineering and Management** has attended a Short Term Online Course on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS"** sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:EPOD9Q-CE000009

Dr. S. A. Ladhake	**Dr. S. B. Warkad / Dr. R. D. Ghongade**	**Dr. S. D. Wakde**
Director	**Programme Convenor**	**Principal**

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

K. D. K. College of Engineering, Nagpur

Department of Civil Engineering

E-Certificate of Participation

Indian Concrete Institute

ACC LIMITED

This is to certify that

Chetan Sureshrao Bidwaik

has participated in Webinar (Online Expert Talk) on

"Environment Friendly and Sustainable Building Materials - An Overview",

by Dr. V. G. Kondekar, Head, Govt. Polytechnic, Sakoli, Nagpur.

on Dated 23th May 2020

Er. Mueen Khan	Er. Arun Uttarwar	Dr. Valsson Varghese	Dr. A. M. Badar	Dr. D. P. Singh
Reg. Customer Service. Head (West)	Chairman, ICI (NC)	HOD, Department of Civil Engineering	Vice-Principal KDKCE	Principal, KDKCE

357

K. D. K. College of Engineering, Nagpur

Department of Civil Engineering

Certificate of Participation

This is to certify that

Chetan Sureshrao Bidwaik

355

has participated in Webinar (Online Expert Talk) on

"Faecal Sludge Management; Indian Scenario & Way Forward", by

Dr. Girish H. Pophali, Senior Principal Scientist, CSIR-NEERI, Nagpur

on Dated 19th May 2020

Er. Mueen Khan Reg. Customer Service. Head (West)	Er. Arun Uttarwar Chairman, ICI (NC)	Dr. V A Mhaisalkar Chairman, IWWA (NC)	Dr. Valsson Varghese HOD, Department of Civil Engineering	Dr. A. M. Badar Vice-Principal KDKCE	Dr. D. P. Singh Principal, KDKCE

G. K. GUJAR MEMORIAL CHARITABLE TRUST'S

DR. ASHOK GUJAR TECHNICAL INSTITUTE'S

DR. DAULATRAO AHER COLLEGE OF ENGINEERING, KARAD

Freedom Fighter
Late G. K. Gujar

Certificate of Appreciation

This is to certify that,

Chetan Sureshrao Bidwaik

For participating in a webinar series from 21 May 2020 to 22 May 2020 on

"Legal Aspects of Civil Engineering"

by Dr. Madhav B. Kumthekar (Principal, Govt. COE, Nagpur)

organized by

Department of Civil Engineering

Dr. A. M. Zende	Prof. H. M. Kumbhar	Dr. A. M. Mulla
Coordinator & HOD	Vice-Principal	Principal

Certificate id : ZDDXVS-CE000058

356

Shri Ramdeobaba College of Engineering and Management, Nagpur
Department of Civil Engineering
& Institution of Engineers (India), Nagpur Local Centre

Webinar Series on
"Civil Engineering Opportunities & Various Industrial Developments"
COVID -2020

e-CERTIFICATE

This is to certify that,

Mr. / Ms. MANISH DESHMUKH

has attended a Webinar on 6th May 2020, entitled

'Waste to Energy: An emerging field for Engineering professionals'

Dr. P. D. Pachpor
HOD, Civil
RCOEM, Nagpur

Dr. M. S. Kadu
Hon. Secretary
Institution of Engineers (India), Nagpur Local Centre

Dr. A. M. Gharad Dr. T. B. Gupta Dr. S. P. Siddh Prof. S. S. Geete Prof. H. P. Khungar (Co-ordinators)

357

Shri Ramdeobaba College of Engineering and Management, Nagpur
Department of Civil Engineering
& Institution of Engineers (India), Nagpur Local Centre

Webinar Series on
"Civil Engineering Opportunities & Various Industrial Developments"
COVID -2020

e-CERTIFICATE

This is to certify that,

Mr. / Ms. MANISH DESHMUKH

has attended a Webinar on 10th May 2020, entitled

'Fire Fighting Systems and Norms'

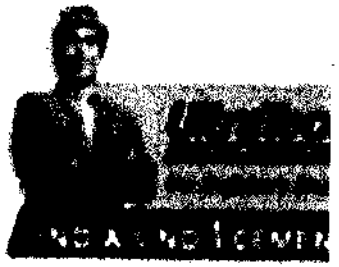
Dr. P. D. Pachpor
HOD, Civil
RCOEM, Nagpur

Dr. M. S. Kadu
Hon. Secretary
Institution of Engineers (India), Nagpur Local Centre

Dr. A. M. Gharad Dr. T. B. Gupta Dr. S. P. Siddh Prof. S. S. Geete Prof. H. P. Khungar (Co-ordinators)

358

Shri Ramdeobaba College of Engineering and Management, Nagpur
Department of Civil Engineering
&
UltraTech Cement Ltd.
Webinar Series on
"Civil Engineering Opportunities & Various Industrial Developments"
COVID -2020



e-CERTIFICATE

This is to certify that,

Mr. Manish sudhakarrao Deshmukh

has attended webinar on 8th May 2020, entitled
"New Building Products"

This is computer generated certificate therefore does not require signature

Stay Home Stay Happy and Stay Safe

359

Shri Ramdeobaba College of Engineering and Management, Nagpur
Department of Civil Engineering
& Institution of Engineers (India), Nagpur Local Centre

Webinar Series on
"Civil Engineering Opportunities & Various Industrial Developments"
COVID -2020

e-CERTIFICATE

This is to certify that,

Mr. / Ms. MANISH .S.DESHMUKH

has attended a Webinar on 5th May 2020, entitled

' Legal Advices in Construction Industry '

Dr. P. D. Pachpor
HOD, Civil
RCOEM, Nagpur

Dr. M. S. Kadu
Hon. Secretary
Institution of Engineers (India), Nagpur Local Centre

Dr. A. M. Gharad Dr. T. B. Gupta Dr. S. P. Siddh Prof. S. S. Geete Prof. H. P. Khungar (Co-ordinators)

360

ZEU4QO-CE000524

KNOWLEDGE IS DIVINE

GGSF

GURU GOBIND SINGH FOUNDATION

Guru Gobind Singh College Foundation's

Guru Gobind Singh College of Engineering and Research Centre, Nashik

Training and Placement Department

CERTIFICATE OF PARTICIPATION

Webinar on

INDUSTRY SCENARIO AFTER COVID-19

This is to certify that ***Manish sudhakarrao Deshmukh*** from ***P.R.Pote college of engineering and management Amravati*** attended webinar on 20th and 21st May 2020 on "**Industry Scenario after COVID-19**" organized by Training and Placement Department, GCOERC, Nashik.

Mr. V. B. Sarode
TPO, GCOERC

Dr. N. G. Nikam
Principal

Permindur Singh
CEO, GGSF

361

Shri Ramdeobaba College of Engineering and Management, Nagpur
Department of Civil Engineering
& Institution of Engineers (India), Nagpur Local Centre

Webinar Series on
"Civil Engineering Opportunities & Various Industrial Developments"
COVID -2020

e-CERTIFICATE

This is to certify that,

Mr. / Ms. MANISH DESHMUKH

has attended a Webinar on 7th May 2020, entitled

'They graduated in learning, you graduated in teaching?'

Dr. P. D. Pachpor
HOD, Civil
RCOEM, Nagpur

Dr. M. S. Kadu
Hon. Secretary
Institution of Engineers (India), Nagpur Local Centre

Dr. A.M. Gharad Dr. T.B. Gupta Dr. S. P. Siddh Prof. S. S. Geete Prof. H. P. Khungar (Co-ordinators)

362

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended a Webinar on Innovation for Present & Future by Resource Person Mr. Nilesh Rambhau Rahate (Architect & Product Designer) held on 31/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended a Webinar on Want to be Change Agent by Resource Person Dr. Prashant Rokade IRS (OSD, Ministry of Finance, Govt. of India) held on 30/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended Webinar on

Green Soil Improvement

held on 28/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

365

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended Webinar on

Structural Planning & Design

held on 29/05/2020

Dr. S. A. Ladhake
Director

Dr. S. D. Wakde
Principal, PRPCEM

Dr. Mohd. Zuhair
Principal, PRPIER

Prof. S. S. Sa...
HOD, Civil

P. R. Pote Patil

College of Engineering & Management, Amravati

Department of Civil Engineering

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended Webinar on

Damped Dynamic Systems

held on 27/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof. S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

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

Certificate

This is to certify that

Chetan Sureshrao Bidwaik

has attended Webinar on

Introduction to Finite Element Method and its Application to Civil Engineering held on 26/05/2020.

Dr. S. A. Ladhake	Dr. S. D. Wakde	Dr. Mohd. Zuhair	Prof.S. S. Saraf
Director	Principal, PRPCEM	Principal, PRPPIER	HOD, Civil

INDIAN SOCIETY OF EARTHQUAKE TECHNOLOGY

(ESTABLISHED IN 1962; REGISTRATION NO. 845/64-65)

Department of Earthquake Engineering Building
Indian Institute of Technology Roorkee, Roorkee-247 667, India

(AFFILIATED TO INTERNATIONAL ASSOCIATION FOR EARTHQUAKE ENGINEERING)

CERTIFICATE *of* PARTICIPATION

THIS ACKNOWLEDGES THAT

Chetan Sureshrao Bidwaik

HAS PARTICIPATED IN THE WEBINAR ON

Relevance of Site Effect in Earthquake Resistant Construction

DELIVERED BY **DR. S.K. PRASAD**, PROFESSOR OF CIVIL ENGINEERING (RETIRED), SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING, MYSORE ON 23RD MAY, 2020

(RAVI S. JAKKA)
Secretary, ISET

(T.G. SITHARAM)
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INDIAN SOCIETY OF EARTHQUAKE TECHNOLOGY

(ESTABLISHED IN 1962; REGISTRATION NO. 845/64-65)

Department of Earthquake Engineering Building
Indian Institute of Technology Roorkee, Roorkee-247 667, India

(AFFILIATED TO INTERNATIONAL ASSOCIATION FOR EARTHQUAKE ENGINEERING)

CERTIFICATE *of* PARTICIPATION

THIS ACKNOWLEDGES THAT

Chetan Sureshrao Bidwaik

HAS PARTICIPATED IN THE WEBINAR ON

EARTHQUAKE ENGINEERING & TECHNOLOGY

DELIVERED BY **PROF. VASANT MATSAGAR**, EDITOR, ISET JOURNAL &
PROFESSOR IN CIVIL ENGG. DEPT., IIT DELHI ON 9TH MAY 9, 2020

(RAVI S. JAKKA)
Secretary, ISET

(T.G. SITHARAM)
President, ISET

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INDIAN SOCIETY OF EARTHQUAKE TECHNOLOGY

(ESTABLISHED IN 1962; REGISTRATION NO. 845/64-65)

Department of Earthquake Engineering Building
Indian Institute of Technology Roorkee, Roorkee-247 667, India

(AFFILIATED TO INTERNATIONAL ASSOCIATION FOR EARTHQUAKE ENGINEERING)

CERTIFICATE *of* PARTICIPATION

THIS ACKNOWLEDGES THAT

Chetan Sureshrao Bidwaik

HAS PARTICIPATED IN THE WEBINAR ON

Seismic Microzonation Studies in India

DELIVERED BY PROF. CHANDAN GHOSH, DEPARTMENT OF CIVIL ENGINEERING, INDIAN INSTITUTE OF TECHNOLOGY, JAMMU ON 30TH MAY, 2020

(RAVI S. JAKKA)
Secretary, ISET

(T.G. SITHARAM)
President, ISET

Sinhgad Institutes

Sinhgad Technical Education Society's

Sinhgad Academy of Engineering

Kondhwa (Bk), Pune -411048

(Affiliated to Savitribai Phule University of Pune and Approved by, AICTE, New Delhi.)

Department of Civil Engineering

CERTIFICATE OF APPRECIATION

This is to Certify that **Chetan Sureshrao Bidwaik** of **P.R.Pote Patil College of Engineering and Management** has successfully completed the **Online Quiz** on **RCC Design** with a passing score of **50%** between 25th to 28th May 2020. This event is organised by Department of Civil Engineering, Sinhgad Academy of Engineering, Kondhwa, Pune.

Certificate ID: WDHWQE-CE000326

Prof. D. W. Gawatre	Prof. S. P. Kitture	Prof. R. B. Bajare	Dr. K. M. Gaikwad	Dr. K. P. Patil
Co-ordinator	Convenor	Head of Department	Vice-Principal	Principal

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Indian Institute of Technology Roorkee, Roorkee-247 667, India

(AFFILIATED TO INTERNATIONAL ASSOCIATION FOR EARTHQUAKE ENGINEERING)

CERTIFICATE *of* PARTICIPATION

THIS ACKNOWLEDGES THAT

Rashmi Sharad Pagrut

HAS PARTICIPATED IN THE WEBINAR ON

EARTHQUAKE ENGINEERING & TECHNOLOGY

DELIVERED BY PROF. VASANT MATSAGAR, EDITOR, ISET JOURNAL &
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(RAVI S. JAKKA)
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(T.G. SITHARAM)
President, ISET

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terna ASTR Krishna Conchem Products Pvt. Ltd. Rachana Enterprises Web : www.rachanaenterprises.com Indian Chapter of American Concrete Institute

CERTIFICATE

of participation

THIS CERTIFICATE IS PROUDLY PRESENTED FOR HONORABLE ACHIEVEMENT TO

Mohammad Abdul Rehman

has participated in Online Short Term Program on
"Innovation and Upgradation in Infrastructural Technology"
organized by The Department of Civil Engineering, TEC in Association with ASTR, Krishna Conchem Products, Rachana Enterprises and Student Chapter ICACI & IEI from 27th May to 02nd June 2020

Dr. Gopal Rai Hon. Secretary, ASTR	Dr. Madan K. Kamat MD, Krishna Conchem Products Pvt. Ltd.	Dr. Priyanka Salunkhe HoD, Civil Department	Dr. L.K. Ragha Principal, TEC

376

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

7th & 8th November 2019

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3.37
19-20

Certificate

This is to certify that

Prof./Dr./Mr./Ms. R. D. Sushir

of Electronics & Telecommunication

has participated / presented a paper entitled

Image Partioning Technique: A Review *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. R. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice Principal, PRPCE&M	Dean (Academics)

Yashika Scopus

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7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr. Mr./Ms. Prof. S. P. Bhonge

of Electronics & Telecommunication Engg.

has participated / presented a paper entitled Design and Analysis of Low power Amplifiers for WLAN Application at using 45nm CMOS Technology

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. D. Bhoyar
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7th & 8th November 2019

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This is to certify that

Prof./Dr./Mr./Ms. R. D. Sushir

of Electronics & Telecommunication

has participated / presented a paper entitled

CNC Based Portable Pen Plotter *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. R. Bhoyar
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7 & 8 November 2019

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Prof./Dr./Mr./Ms. B. R. Mankar

of Electronics & Telecommunication

has participated / presented a paper entitled

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" Global Conference on Multidisciplinary Research 2019 " held on 7-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadne[illegible]	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice Principal, PRPCE&M	Dean (Academics)

YP YASHIKA [illegible]

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This is to certify that

Prof./Dr./Mr./Ms. V. B. Langote

of Electronics & Telecommunication

has participated / presented a paper entitled

Image Partioning Technique: A Review

at

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. D. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE

Prof. P. R. Wadnerkar
Vice Principal, PRPCE&M

Dr. A. R. Bhoyar
Dean (Academics)

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Certificate

This is to certify that

Prof./Dr./Mr./Ms. B. R. Mankar

of Electronics & Telecommuication

has participated / presented a paper entitled Design & analysis of low power Amplifiers for WLAN application using 45nm CMOS Technology *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. R. Wadnerkar
Vice Principal, PRPCE&M

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Prof./Dr./Mr./Ms. A. R. Pawade

of Electronics & Telecommuication

has participated / presented a paper entitled Design & analysis of low power Amplifiers for WLAN application using 45nm CMOS Technology *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7 -8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. D. Wakde	Prof. P.R. Wadnerkar	Dr. A. D. Bhoyar
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of Electronics & Telecommunication

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Image Partioning Technique: A Review *at*

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Prof./Dr./Mr./Ms. U. W. Hore

of Electronics & Telecommuication

has participated / presented a paper entitled Design & analysis of low power Amplifiers for WLAN application using 45nm CMOS Technology

at

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

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Spoken Tutorial

One Week Online Faculty Development Program

on

Scilab

Certificate

This is to certify that Prof. Vishal Babasaheb Langote from P R Pote Patil College of Engineering and Management has participated in **One Week Online Faculty Development Program on** *"Scilab"* organized by **Department of Electronics & Telecommunication Engineering, S. B. Jain Institute of Technology, Management & Research** in association with **Spoken Tutorial Project, Indian Institute of Technology Bombay** funded by **National Mission on Education through ICT, MHRD, Govt. of India** from **4th - 9th May 2020.**

Ms. Ayushi Jaiswal
Coordinator

Dr. Abhay Kasetwar
Convener & HOD (ETC Dept.)

Dr. Sanjay Badjate
Principal

Certificate Id:SBETC-FDPSL200

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Dr. Rajendra Gode Educational campus, University Road Amravati-444602 www.drgitr.com

RGITA

CERTIFICATE OF PARTICIPATION

is awarded to

Prashant N Pusdekar

for participating in One week Online Short Term Training Program on "**Recent Trends & Application of Solar Photovoltaic Energy System**" Organized by **Department of Electronics and Telecommunication Engineering** in association with IETE and ReTranspower Energy Solution, held during 02nd to 06th June, 2020.

RETRANSPOWER ENERGY SOLUTIONS

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S.R.H

Prof. S R. Hole
(Coordinator), Asst Professor

R.Deshmukh

Dr. R. M. Deshmukh
(Convener) Professor & Head, EXTC Department

Dr. P. B. Patil
Principal

Datta Meghe Institute of Engineering, Technology & Research

Sawangi (Meghe) Wardha (Maharashtra)

Certificate

RESEARCH METHODOLOGY

This is to certify that,

Rupesh Devidas Sushir

has participated in "Faculty Awareness Programme on Research Methodology" organized by Research & Development Cell, Datta Meghe Institute of Engineering,Technology and Research Sawangi (Meghe),Wardha on 14 th May, 2020.

Dr. Rajendra M. Rewatkar
Incharge R & D Cell

Dr. Prasanna L. Zade
Principal

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NBA & NAAC A Accredited

CERTIFICATE OF PARTICIPATION

This is to certify that

Rupesh Devidas Sushir

has actively participated in One Week Online Faculty Development Program on

"Research Methodology and Tools"

Organized by Department of Computer Engineering

from 11th May to 15th May 2020.

Dr. Mangesh M. Ghonge	Dr. Amol D. Potgantwar	Dr. S. T. Gandhe
FDP, Coordinator	Head of Department	Principal

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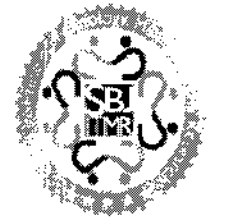
has successfully completed 100% of the self-paced training course

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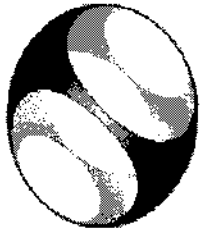
13 May 2020

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One Week Online Faculty Development Program

on

Scilab

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This is to certify that Mr. RUPESH DEVIDAS SUSHIR from P.R.P.C.E.M has participated in **One Week Online Faculty Development Program on** *"Scilab"* organized by **Department of Electronics & Telecommunication Engineering, S. B. Jain Institute of Technology, Management & Research** in association with **Spoken Tutorial Project, Indian Institute of Technology Bombay** funded by **National Mission on Education through ICT, MHRD, Govt. of India** from **4th - 9th May 2020.**

Ms. Ayushi Jaiswal
Coordinator

Dr. Abhay Kasetwar
Convener & HOD (ETC Dept.)

Dr. Sanjay Badjate
Principal

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5/13/2020 12:47:39

Rupesh Devidas Sushir

of

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has successfully completed online

"Manuscript Preparation using Overleaf."

You scored **90 %.** Best Wishes !

Trainer

Dr. Ramchandra Mangrulkar

(Email: ramchandra.mangrulkar@gmail.com)

Spoken Tutorial

Certificate for Completion of Python 3.4.3 Training

This is to certify that **RUPESH SUSHIR** has successfully completed **Python 3.4.3** test organized at **P.R.Pote Group of Educational Trust's College of Engineering & Management** by **PARNAL PRAKASH PAWADE** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **KOMAL BIJWE** at **P.R.Pote Group of Educational Trust's College of Engineering & Management** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

April 28th 2020

Prof. Kannan M Moudgalya
IIT Bombay

9417YE4

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अंतरिक्ष विभाग
भारतीय अंतरिक्ष अनुसंधान संगठन
भारतीय सुदूर संवेदन संस्थान, देहरादून

सत्यमेव जयते

GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
INDIAN SPACE RESEARCH ORGANISATION
INDIAN INSTITUTE OF REMOTE SENSING, DEHRADUN

नामांकन सं. / Enrollment No. : 202070010131557

CERTIFICATE OF PARTICIPATION IN ONLINE COURSE

यह प्रमाणित किया जाता है कि प्रो॰ प्रशांत [illegible] को यह प्रमाण पत्र [illegible] विश्वविद्यालय [illegible] अधिकारी अधिकारियों के लिए [illegible] में ऑनलाइन पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। इस पाठ्यक्रम का आयोजन भारतीय सुदूर संवेदन संस्थान (आईआईआरएस) इसरो देहरादून द्वारा **13 जून, 2020 से 01 जुलाई, 2020** के दौरान किया गया।

This is to certify that PROF. PRA[illegible] MADHUKAR PUNDARKAR has been awarded this certificate on completion of online course on "Remote Sensing & [illegible]ology and Applications for University Teachers & Government [illegible]" which was conducted by Indian Institute of Remote Sensing (IIRS),ISRO Dehradun, during **13-06-2020 to 01-07-2020** .

Date: 23-07-2020
Place: Dehradun

निदेशक/ **Director**
आई०आई०आर०एस, देहरादून/ IIRS, Dehradun

UID- [illegible]295573ff285639a8b15d391eb263 This Certificate can be validated using URL- https://certificate.iirs.gov.in

P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
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Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, Prof. **Prashant N. Pusdekar** of **P. R. Pote Patil College of Engineering & Management, Amravati** has attended a Short Term Online Course on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS"** sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:EPOD9Q-CE000071

Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

SHRI SHIVAJI EDUCATION SOCIETY, AMRAVATI'S

COLLEGE OF ENGINEERING & TECHNOLOGY, AKOLA (MH)

ONE WEEK ONLINE SHORT TERM TRAINING PROGRAM

(Vide Letter ISTE/Proceedings/STTP-SF/MAH-018/2020-2021/Dated June 03, 2020)

CERTIFICATE

OF COMPLETION

This is to certify that

Prof. Prashant N Pusdekar

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

has attended Online Short Term Training Program on

"E-Learning Tools, Methodologies and Content Management"

Approved By AICTE-ISTE, New Delhi during June 8th to June 13th 2020

Organized By

Department of Computer Science & Engineering

College of Engineering & Technology, Babulgaon (Jh.) Akola

in Association with Computer Society of India (CSI), Amravati Chapter, Amravati

DR. S. S. AGRAWAL
CO-ORDINATOR

DR. S. K. DESHMUKH
PRINCIPAL

DR. S. L. SATARKAR
CONVENER

SAI SPURTHI INSTITUTE OF TECHNOLOGY

(Approved by AICTE, Affiliated to JNTUH,Hyderabad)

B.GANGARAM,SATHUPALLY,KHAMMAM-507303, TELANGANA

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Certificate of Participation

This is to certify that

Prof. Bhushan Ruprao Mankar

P. R. Pote College of engineering and management Amravati

Participated in

A Three Day Online National level Workshop on

"The Future Technology Stack- AI ,ML & NLP"

organized by **Department of Computer Science and Engineering, Sai Spurthi Institute of Technology** from 08-06-2020 to 10-06-2020.

Dr. Ramesh Kumar Raju (CO ORDINATOR)	Mr.. SK. Yakoob (CO ORDINATOR)	Mr. N. Venkateswara Rao (HOD - CSE)	Dr. Ch. Vijaya Kumar (PRINCIPAL)

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Affiliated to Sant Gadge Baba Amravati University, Amravati

National Level Webinar on

Cyber Security In Present Scenario & Career Opportunities In the Field

CERTIFICATE
of Participation

This is to certify that Prof./Dr./ Mr. /Ms./Mrs. **Prof. Bhushan Ruprao Mankar** of **P. R. Pote College of engineering and management, Amravati** has participated in the National Level Webinar on "***Cyber Security In Present Scenario & Career Opportunities In the Field***" organized by Department of Computer Science and IQAC of Shri R. L. T. College of Science, Akola (MS), held on 04 June 2020.

Shri R. G. Chavan	Shri R. B. Ghayalkar	Dr. R. L. Rahatgaonkar	Dr. V. D. Nanoty
Convener	Organizing Secretary	IQAC Coordinator	Principal

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FACULTY DEVELOPMENT PROGRAM

Certificate of Participation

Spoken Tutorials

This is to certify that BHUSHAN RUPRAO MANKAR of P. R. Pote College of engineering and management Amravati has actively participated in the **Five Days Faculty Development Program** on **ExpEYES** from **01.06.2020** to **05.06.2020** organized by **Department of E&TC Engineering, ABMSP's Anantrao Pawar College of Engineering & Research, Pune** in Association with **Spoken Tutorial, IIT Bombay.**

Prof.Mandar N. Kakade	**Prof.Shailesh S.Hajare**	**Dr.Sunil B.Thakare**	**Mrs.Pramila B. Gaikwad**
FDP Coordinator	**HOD & IQAC Coordinator**	**Principal**	**General Secretary**
E&TC Engineering	**E&TC Engineering**	**APCOER**	**ABMS Parishad**

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Dr. Rajendra Gode Educational Campus, University Road, Amravati - 444602 www.drgitr.com

भारतीय राष्ट्रीय युवा परिषद
National Youth Council of India

Certificate of Participation

BRAIN O VISION

This is to certify that Mr./Ms./Mrs **Prof. Bhushan Ruprao Mankar** has participated in a 5-Day-National Level **Online Faculty Development Program** on **Artificial Intelligence** from 22nd May 2020 to 26th May 2020 organised by the Department of Computer Science & Engineering in association with **National Youth Council of India** and **Brainovision Solutions India Pvt. Ltd** setting a proud world record with 13000 diligent learners across the nation.

Datchana Moorthy	**Ganesh Nag Doddi**	**Prof. N. E. Karale**	**Dr. S. W. Mohod**	**Dr. P. B. Patil**
National Executive President, NYCI	CEO of Brainovision	Coordinator	Convener	Principal

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FOHDPG-CE000045

Lokmanya Tilak Jankalyan Shikshan Sanstha's

Priyadarshini College of Engineering, Nagpur

(NAAC Accredited Grade "A+" with CGPA 3.31)

Approved by AICTE, New Delhi & Affiliated to RTMNU, Nagpur

CERTIFICATE

This is to certify that Dr./Prof./Mr./Ms BHUSHAN MANKAR

has participated in One-week Online Faculty Development Program on "Research Methodology Tools and Techniques (RMTT)", organized by Internal Quality Assurance Cell & Higher Learning and Research Centre, PCE, Nagpur from 29-05-2020 to 02-06-2020.

Dr. R.A.Keswani	Dr. (Mrs.) S.W.Varade	Dr. S.S.Shriramwar	Dr. M.P.Singh
(Coordinator-RMTT)	(Convener-RMTT)	(IQAC Coordinator)	(Principal)

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Vidarbha Youth Welfare Society's

Prof. Ram Meghe Institute of Technology & Research,

Badnera- Amravati

Certificate

This is to certify that

Prof. S. P.Bhonge

has participated in AICTE- ISTE (New Delhi) approved

(As per letter no. ISTE/Proceedings/STTP-SF/MAH-102/2019-20 dated 04/12/2019)

One Week Short Term Training Program

on

Python for IoT and Introduction to 3D Printing Technology

held during December 17th - December 21st, 2019

Organized by

Department of Electronics & Telecomm. Engineering

Prof. B. P. Fuladi	Prof. A. B. Pardikar	Dr. S. M. Deshmukh	Dr. A. P. Bodkhe,
Co-ordinator	Co-prdinator	Convener	Principal, PRMIT&R

21/12/2019

405

9304

Certificate

This is to certify that Mr./Ms. *SURYAKANT P. BHONGE*

has successfully completed AICTE-ISTE approved Induction/Refresher Programme

" *Python for Internet of Things and Introduction to 3D Printing Technology* " held during

17.12.2019 to *21.12.2019* Organized by *Prof. Ram Meghe Institute of Technology*

And Research, Badnera, Amravati, Maharashtra

Advisor, AICTE	Executive Secretary, ISTE	Principal	Program Coordinator
		A.B. Purohit	S.P. Fuwad

404

Spoken Tutorial

Certificate for Completion of Scilab Training

This is to certify that **SURYAKANT BHONGE** has successfully completed **Scilab** test organized at **S.B. Jain Institute of Technology, Management & Research** by **ABHAY KASETWAR** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **AYUSHI JAISWAL** at **S.B. Jain Institute of Technology, Management & Research** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

May 9th 2020

Prof. Kannan M Moudgalya
IIT Bombay

405

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. B. R. Mankar

of Electronics & Telecommunication Engg.

has participated / presented a paper entitled CNC Based portable pen plotter at

" Global Conference on Multidisciplinary Research 2019 " held on 7 -8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCT&M

Prof. P. R. Wadnerkar
Vice Principal, PRPCT&M

Dr. A. D. Bhoyar
Dean (Academics)

Yashika Publication

Scopus

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. B. R. Mankar

of Electronics and Telecommunication Engg.

has participated / presented a paper entitled Image partitioning Techniques : A Review *at*

" Global Conference on Multidisciplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr.Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. R. Wadnerkar
Vice-Principal, PRPCE&M

Dr. K. D. Bhoyar
Dean (Academics)

Yashika Publications

Scopus

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. Prof. G. R. Mankar

of Electronics & Telecommunication Engg.

has participated / presented a paper entitled Design and Analysis of Low power Amplifiers for WLAN Application at 45nm CMOS Technology

" Global Conference on Multidisciplinary Research 2019 " held on 7-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad
Dean (R&D)

Dr. Mrs. S. D. Wakde
Principal, PRPCE&M

Prof. P. R. Wadnerkar
Vice Principal, PRPCE&M

Dr. A. D. Bhoyar
Dean (Academics)

Yashika Publications

Scopus

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

Certificate

This is to certify that

Prof./Dr./Mr./Ms. Prof. R.D. Ghongade

of Electronics & Telecommunication Engg.

has participated / presented a paper entitled A review on Image segmentation & classification for vision based detection & tracking of moving object in video surveillance

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. R. Wadnerkar	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

Yashika Publications

Scopus

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. Prashant N. Ruikekar

of EXTC Dept. of PRPCEM, Amravati

has participated / presented a paper entitled Generation of Digital Elevation Models : A Review

at "Global Conference on Multidisciplinary Research 2019" held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice Principal, PRPCE&M	Dean (Academics)

YP Yashika Scopus

SHIVAJI UNIVERSITY, KOLHAPUR

Faculty Development Centre

A MHRD Government of India Initiative
Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching
(PMMMNMTT).

Faculty Development Program on Data Science

Certificate

This is to certify that,

Dr./Mr./Ms./Mrs. Sunpreet Kaur Nanda

of P. R. Pote College of Engineering & Management, Amravati *has participated/Contributed in Faculty Development Program on Data Science organized by Faculty Development Centre in Cyber Security and Data Sciences, Shivaji University, Kolhapur hosted by Department of Information Technology, Sipna College of Engineering & Technology, Amravati conducted by FDC PMMMNMTT, during 2nd December – 7th December, 2019*

Mr. Harshal N. Datir
Local Coordinator

Dr. Vijay S. Gulhane
Convener

Dr. Sanjay M. Kherde
Principal, Sipna College of Engineering & Technology, Amravati

Dr. K.S. Oza
Course Co-Coordinator

Prof. (Dr.) R. K. Kamat
Coordinator

D Y PATIL
UNIVERSITY
RAMRAO ADIK
INSTITUTE OF TECHNOLOGY
MUMBAI

RAMRAO ADIK INSTITUTE OF TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

RAIT acm
ID 183227

CERTIFICATE

THIS IS TO CERTIFY THAT

BHUSHAN RUPRAO MANKAR

has successfully completed the 5 Day Online STTP on

"Recent Trends and Applications of Machine Learning and Deep Learning in IT"

organized by the Department of Information Technology, RAIT, Navi Mumbai

May 25, 2020 to May 29, 2020.

Dr. Ashish Jadhav
Convenor, STTP
Head of Department
of Information Technology

Dr. Mukesh Patil
Principal
Ramrao Adik
Institite of Technology

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Sipna Shikshan Prasarak Mandal's

Sipna College of Engineering & Technology Amravati (M. S.)

Certificate Of Participation

This is to certify that

Mr. Bhushan Ruprao Mankar

has attended a webinar on **"POST COVID SCENARIO OF TECHNICAL EDUCATION & INDUSTRY RECRUITMENT"** organized by **IQAC** **Sipna College of Engineering & Technology, Amravati (M.S.)** On **30th May 2020.**

Prof. S. V. Potdar
Dean- IIICR

Dr. A. A. Gurjar
IQAC

Dr. S. M. Kherde
Principal



Dr. Rajendra Gode Institute of Technology & Research, Amravati

Affiliated to SGBAU, Amravati |Accredited by NAAC

Dr. Rajendra Gode Educational campus, University Road Amravati-444602 www.drgitr.com

CERTIFICATE OF PARTICIPATION

is awarded to

Bhushan Ruprao Mankar

for participating in One week Online Short Term Training Program on "**Recent Trends & Application of Solar Photovoltaic Energy System**" Organized by **Department of Electronics and Telecommunication Engineering** in association with IETE and ReTranspower Energy Solution, held during 02nd to 06th June, 2020.

Prof. S R. Hole
(Coordinator), Asst Professor

Dr. R. M. Deshmukh
(Convener) Professor & Head,
EXTC Department

Dr. P. B. Patil
Principal

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P. R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, **Prof. Bhushan Ruprao Mankar** of **P. R. Pote College of engineering and management Amravati** has attended a Short Term Online Course on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS"** sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:EPOD9Q-CE000069

Dr. S. A. Ladhake	**Dr. S. B. Warkad / Dr. R. D. Ghongade**	**Dr. S. D. Wakde**
Director	**Programme Convenor**	**Principal**

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020



D Y PATIL DEEMED TO BE UNIVERSITY
RAMRAO ADIK INSTITUTE OF TECHNOLOGY
NAVI MUMBAI

DesignTech
Technology for designing the future

5-Days Online STTP on

MATLAB based Teaching-Learning in Mathematics, Science & Engineering

Certificate of Participation

This is to certify that ***Mr. RUPESH DEVIDAS SUSHIR*** from ***P. R. Pote College of Engineering and Management, Amravati*** has successfully completed the online Short Term Training Program on ***"MATLAB based Teaching-Learning in Mathematics, Science & Engineering".***

This STTP was organized by the Department of Electronics Engineering, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai in collaboration with DesignTech Systems Pvt. Ltd., Mumbai during 18th to 22nd May 2020.

Mr. M M Zafar
National Technical Manager,
Designtech Systems Pvt Ltd.

Dr. Prasiddh Trivedi
STTP Convenor

Dr Vishwesh A. Vyawahare
Head, Electronics Engg., RAIT

Dr. Mukesh D. Patil
Principal, RAIT

Sipna College of Engineering & Technology, Amravati

Department of Information Technology

Certificate of Participation

This is to certify that

Suryakant Purushottam Bhonge

has actively participated in ISTE approved (Online STTP-SF-MAH-037/2020-21) one week Short Term Training on "Latex- The Document Processor", Organized by Department of Information Technology in association with CSI Chapter, Amravati, from 20th July to 24th July 2020.

Prof. L. K. Gautam	Dr. V. S. Gulhane	Dr. S. M. kherde
CO-ORDINATOR	HOD	PRINCIPAL

P.R. POTE (PATIL) GROUP OF EDUCATION & WELFARE TRUST'S
COLLEGE OF ENGINEERING & MANAGEMENT , AMRAVATI

Accredited with "Grade A" by NAAC Approved by AICTE, New Delhi and affiliated to Sant Gadage Baba Amravati University, Amravati (M.S.)

CERTIFICATE

This is to certify that, **Suryakant Purushottam Bhonge** of **P.R.Pote (Patil)Group Of Institutions, College Of Engineering And Management,Amravati** has attended a Short Term Online Course on **"OUTCOME BASED EDUCATION AND NBA ACCREDITATION PROCESS"** sponsored by Indian Society for Technical Education (ISTE), New Delhi during 8/06/2020 to 12/06/2020 held at P. R. Pote (Patil) College of Engineering & Management, Amravati.

Certificate ID:EPOD9Q-CE000055

Dr. S. A. Ladhake
Director

Dr. S. B. Warkad / Dr. R. D. Ghongade
Programme Convenor

Dr. S. D. Wakde
Principal

ISTE Sanction Order: ISTE/Proceedings/STTP-SF-/MAH-017/2020-21 Dated June 02, 2020

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DY PATIL DEEMED TO BE UNIVERSITY
RAMRAO ADIK INSTITUTE OF TECHNOLOGY
NAVI MUMBAI

• DesignTech
Technology for designing the future

5-Days Online STTP on

MATLAB based Teaching-Learning in Mathematics, Science & Engineering

Certificate of Participation

This is to certify that ***Mr. Suryakant Purushottam Bhonge*** from ***P.R.Pote (Patil)Group Of Institutions, College Of Engineering And Management,Amravati*** has successfully completed the online Short Term Training Program on ***"MATLAB based Teaching-Learning in Mathematics, Science & Engineering".***

This STTP was organized by the Department of Electronics Engineering, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai in collaboration with DesignTech Systems Pvt. Ltd., Mumbai during 18th to 22nd May 2020.

Mr. M M Zafar
National Technical Manager,
Designtech Systems Pvt Ltd.

Dr. Prasiddh Trivedi
STTP Convenor

Dr Vishwesh A. Vyawahare
Head, Electronics Engg., RAIT

Dr. Mukesh D. Patil
Principal, RAIT

Jhulelal Institute Of Technology

Approved by AICTE, Recognized by DTE and Affiliated to RTM Nagpur University

CADD CENTRE

Skills Driven. Job Led

Vishvakariya Automotive Pvt. Ltd.

Electric Vehicle Company

CERTIFICATE OF PARTICIPATION

This is to Certify that

Suryakant Purushottam Bhonge

has participated in **One Week Faculty Development Programme** on **"Electric Vehicle"** organised by Department of Electrical Engineering, Jhulelal Institute of Technology, Nagpur- 441111 in association with CADD Centre Training Services and Vishvakariya Automotive Pvt. Ltd. Nagpur, held on **11th-16th May 2020**, where the session was delivered by Mr. Harshal Thakre, a Certified Electric Vehicle trainer.

V.R. Kariya

VINIT KARIYA
DIRECTOR
VISHVAKARIYA AUTOMOTIVE
Pvt. Ltd.

Prof. ROHAN M. INGLE
Convener & H.O.D. EE
Jhulelal Institute of
Technology

426

Padmabhushan Vasantdada Patil Pratishthan's College of Engineering

Eastern Express highway, Near everard nagar sion chunabhatti, Mumbai-400022

Certificate of Appreciation

This is to certify that

Prof. Vishal B. Langote

P R Pote Patil College of Engineering and Management

Has successfully completed **National Level Quiz on NAAC** on 15-6-2020, organized by Department of Computer Engineering, P.V.P.P. College of Engineering, Mumbai-22.

Prof. Srikant Bagewadi.
Prof. Manjiri Pathak.
Co-ordinators

Dr. Mahavir A. Devmane.
Convener

Dr. Alam N. Shaikh
Principal & Campus Director

OQBUQC-CE008035

421

Spoken Tutorial

Certificate for Completion of Scilab Training

This is to certify that **VISHAL LANGOTE** has successfully completed **Scilab** test organized at **S.B. Jain Institute of Technology, Management & Research** by **ABHAY KASETWAR** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **AYUSHI JAISWAL** at **S.B. Jain Institute of Technology, Management & Research** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

May 9th 2020

Prof. Kannan M Moudgalya
IIT Bombay

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Spoken Tutorial

Certificate for Completion of Python 3.4.3 Training

This is to certify that **VISHAL LANGOTE** has successfully completed **Python 3.4.3** test organized at **Pune Institute of Computer Technology** by **RATNAMALA PASWAN** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **PUJASHREE VIDAP** at **Pune Institute of Computer Technology** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

May 6th 2020

Prof. Kannan M Moudgalya
IIT Bombay

426

Sipna Shikshan Prasarak Mandal's

SIPNA COLLEGE OF ENGINEERING & TECHNOLOGY, AMRAVATI

CERTIFICATE

This is to certify that

Ms/Mr/Dr/ Prashant N. Pusdekar

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

has attended the one Day Workshop on Teaching Scheme Refinement of B.E. (E&TC) as Per AICTE Model Curriculum under the Board of Studies in Electronics, Industrial Electronics & Applied Electronics for Faculty of Science & Technology of SGB Amravati University, Amravati. The Program was Organized by Department of Electronics & Telecommunication Engineering, Sipna COET, Amravati, on behalf of SGB Amravati University, Amravati on 31 January 2020.

Dr. P. B. Patil
Chairman (BOS)
Electronics Engg.
SGBAU, Amravati

Dr. P. C. Raghuwanshi
Dean
Faculty of Science & Engg.
SGBAU, Amravati

Dr. S. M. Kherde
Principal
Sipna COET
Amravati

REDMI NOTE 5 PRO

SANDIP FOUNDATION'S

SANDIP INSTITUTE OF ENGINEERING AND MANAGEMENT

Department of Computer Engineering

CERTIFICATE OF COMPLETION

This certificate is presented to

Dalvi Gopalkrishna Dnyaneshwar

from **P.R.Pote Patil COE&M, Amravati** has attended the Online Webinar on "**SAP Analytics Cloud (SAC)**" organised by Department of Computer Engineering, Sandip Institute of Engineering and Management on 12th May 2020.

Prof.G.K.Gaikwad
(Co-ordinator)

Dr. K. C. Nalavade
(Head of Department)

Dr. D. P. Patil
(Principal)

G. S. Mandal's

Maharashtra Institute of Technology, Aurangabad

Accredited with "Grade A" by NAAC

Approved by AICTE, New Delhi and Permanently affiliated to Dr. B. A. M. University, Aurangabad

Certificate of Appreciation

This is to certify that **Dr Gopalkrishna D Dalvi** of **P.R.Pote Patil COE& M, Amravati** has successfully completed Faculty Awareness Programme on **Outcome Based Education and NBA Accreditation** Organized by **"Internal Quality Assurance Cell"** of **Maharashtra Institute of Technology, Aurangabad on 10-5-2020.**

Dr. Santosh Bhosle
Principal

NYMOXA-CE000047

Spoken Tutorial

Certificate for Completion of Scilab Training

This is to certify that **GOPALKRISHNA DALVI** has successfully completed **Scilab** test organized at **S.B. Jain Institute of Technology, Management & Research** by **ABHAY KASETWAR** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **AYUSHI JAISWAL** at **S.B. Jain Institute of Technology, Management & Research** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

May 9th 2020

Prof. Kannan M Moudgalya
IIT Bombay

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SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Gopalkrishna D Dalvi** has participated in the webinar on **"Techniques To Make Computer Science Education More Useful And Interesting"**, delivered by: Dr. Abhiram G. Ranade, Professor, CSE, IIT Bombay. He has also participated in the webinar on **"Current Trends In Data Science With Real World Application of AI & ML"**, delivered by: Mr. Jay Mahadeokar, Sr. Software Engineer, Facebook AI – California, USA. The Webinar was organized on GoogleMeeting by Department of Computer Science and Engineering, RCOEM, Nagpur.

Date: 08-05-2020
Time: 11.00 am to 1.00 pm

Dr. M.B. Chandak
Professor and Head
Department of CSE

Vision Buldana Educational & Welfare Society's

Pankaj Laddhad Institute of Technology & Management Studies

Yelgaon, Buldana (M.S.) India-443002

Shaping Gen Next

Innovations & Entrepreneurship Cell

in association with

Computer Society of India Amravati Chapter, Amravati

organizes an

Intellectual Property Rights (IPR) Online Contest-2020

on the occasion of World IPR Day 2020, April 26

4 424

Certificate of Appreciation

The committee declares that

Gopalkrishna D. Dalvi

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

has completed Intellectual Property Rights online contest-2020

on 26-April-2020, with a passing score of 100%

Certificate No.: YA8OFG-CE000022

E CERTIFICATE REQUIRES NO SIGNATURE



Amrutvahini College of Engineering ,Sangamner

Department Of Computer Engineering

Certificate of Appreciation

This is to Certify that

Dr.Gopalkrishna D.Dalvi

P.R.Pote Patil College Of Engineering and Management, Amravati has successfully passed

Quiz on Python Programming

on 5/7/2020, with passing score of 100%

Certificate ID: SPVWHU-CE000145

Prof. A. N. Nawathe	Prof. R. L. Paikrao	Dr. M. A. Venkatesh
Co-ordinator	HOD, Computer Engineering	Principle, AVCOE

430

"Techno-Social Excellence"

"येथे बहुतांचे हित"
MMIT

Marathwada Mitramandal's INSTITUTE OF TECHNOLOGY (MMIT), Lohgaon, Pune 411047

Approved By AICTE, New Delhi, Affiliated to SPPU, Pune,

CERTIFICATE OF APPRECIATION

THIS CERTIFICATE IS PROUDLY AWARDED TO

Dr. Gopalkrishna D. Dalvi

for successful completion of Quiz on **"IoT Awareness"** Organized by Department of Computer Engineering, Marathwada Mitramandal's Institute of Technology **(MMIT)**, Lohgaon, Pune - 47.

Tupe

Mr. Umakant L. Tupe
Asst. Prof. & Coordinator

Mr. S. G. Rathod
HOD, COMP

COVID-19: STAY HOME, STAY SAFE

431

Spoken Tutorial

Certificate for Completion of Python 3.4.3 Training

This is to certify that **DR. GOPALKRISHNA DALVI** has successfully completed **Python 3.4.3** test organized at **P.R.Pote Group of Educational Trust's College of Engineering & Management** by **PARNAL PRAKASH PAWADE** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **KOMAL BIJWE** at **P.R.Pote Group of Educational Trust's College of Engineering & Management** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

April 28th 2020

Prof. Kannan M Moudgalya
IIT Bombay

2424/371-4

432

Certification of Completion

SANDIP FOUNDATION

SANDIP FOUNDATION'S SIEM INSTITUTE OF ENGINEERING & MANAGEMENT

This certifies that

Dr Gopalkrishna D Dalvi

of P.R.Pote Patil COE&M,Amravati

has participated in one week Student & Faculty Development Program on

"Role of Engineer in Uplifting the Industry Post COVID-19 Lock Down In India"

Organized By

Department of Mechanical Engineering

Sandip Institute of Engineering & Management

SIEM

15-May-2020				
Date & Time	Coordinator	Coordinator	Convenor	Principal

4323

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR

Department of Comp

CERTIFICATE OF PARTICIPATION

This is to certify that ***Dr Gopalkrishna D Dalvi*** *has participated in Webinar on "**IOT and OPC UA Overview**", held on 15th May '20 from 3:00p.m to 4:00p.m., organized by* ***Department of Computer Application****, RCOEM, Nagpur. The Webinar was delivered by Mr.Chaitanya Inamdar , Software Architect, Siemens Technology and Services, Pune.*

P.S. Voditel

Dr. Preeti Voditel
Head, Department of Computer Application, RCOEM, Nagpur

SANDIP FOUNDATION

Sandip Foundation's

Sandip Institute of Technology and Research Centre, Nashik

NAAC A CGPA Score :3.11

NBA & NAAC A Accredited

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr Gopalkrishna D Dalvi

has actively participated in One Week Online Faculty Development Program on

"Research Methodology and Tools"

Organized by Department of Computer Engineering

from 11th May to 15th May 2020.

Dr. Mangesh M. Ghonge	Dr. Amol D. Potgantwar	Dr. S. T. Gandhe
FDP, Coordinator	Head of Department	Principal

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VIT | Vidyalankar Institute of Technology
Accredited A+ by NAAC

WEBINAR ON

5G-COMMUNICATION OF NEXT GENERATION

CERTIFICATE OF PARTICIPATION

This is to certify that

Dr. Gopalkrishna D Dalvi

has participated in webinar on
"5G-Communication of next generation"
organised by ISTE VIT student chapter in association with
Electronics and Telecommunication of Vidyalankar Institute of
Technology on May 14,2020.

Dr. Saurabh Mehta
Chief Academic Officer -VIT

Prof. Vijay Purohit
ISTE Convenor

4436

P. R. Pote Patil College of Engineering & Management, Amravati
Department of Computer Science & Engineering
Faculty Development Program
on

"Python 3.4.3"

MCA 3.3.7. 19-20

CERTIFICATE

Spoken Tutorial

OF PARTICIPATION
PRESENTED TO

Prof. Aparna Bhande

On successful completion of one week Faculty Development Program and Online Training on **"Python 3.4.3"** jointly organized by Spoken Tutorial Project , IIT Bombay & P. R. Pote Patil College of Engineering & Management, Amravati from 22th April 2020 to 27th April 2020.

Prof. P. P. Pawade	Prof. V. B. Bhagat	Dr. C. A. Dhawale	Dr. S. D. Wakde
Coordinator	Coordinator	Convener	Principal

P. R. Pote Patil College of Engineering & Management, Amravati
Department of Computer Science & Engineering
Faculty Development Program
on

"Python 3.4.3"

CERTIFICATE

OF PARTICIPATION
PRESENTED TO

Prof. Rachana Mahule

On successful completion of one week Faculty Development Program and Online Training on **"Python 3.4.3"** jointly organized by Spoken Tutorial Project , IIT Bombay & P. R. Pote Patil College of Engineering & Management, Amravati from 22th April 2020 to 27th April 2020.

Prof. P. P. Pawade	**Prof. V. B. Bhagat**	**Dr. C. A. Dhawale**	**Dr. S. D. Wakde**
Coordinator	Coordinator	Convener	Principal

Spoken Tutorial

538

Spoken Tutorial

Certificate for Completion of Python 3.4.3 Training

This is to certify that **RACHANA MAHULE** has successfully completed **Python 3.4.3** test organized at **P.R.Pote Group of Educational Trust's College of Engineering & Management** by **PARNAL PRAKASH PAWADE** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **KOMAL BIJWE** at **P.R.Pote Group of Educational Trust's College of Engineering & Management** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

April 28th 2020

Prof. Kannan M Moudgalya
IIT Bombay

439

Spoken Tutorial

Certificate for Completion of R Training

This is to certify that **RACHANA MAHULE** has successfully completed **R** test organized at **P.R.Pote Group of Educational Trust's College of Engineering & Management** by **CHITRA DHAWALE** with course material provided by the Spoken Tutorial Project, IIT Bombay.

Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training. **ZEESHAN KHAN** at **P.R.Pote Group of Educational Trust's College of Engineering & Management** invigilated this examination. This training is offered by the **Spoken Tutorial Project, IIT Bombay, funded by National Mission on Education through ICT, MHRD, Govt., of India.**

May 2nd 2020

Prof. Kannan M Moudgalya
IIT Bombay

440

MAEER'S

MIT COLLEGE OF RAILWAY ENGINEERING AND RESEARCH, BARSHI-413401.

Approved by AICTE, Govt. of Maharashtra and Affiliated to
Punyashlok Ahilyadevi Holkar Solapur University, Solapur.
(DTE CODE EN:6901)

Spoken Tutorial
IIT Bombay

Online Workshop for Students and Faculty Development Programme On "LaTeX"

CERTIFICATE OF PARTICIPATION

Presented to

Aparna Bhande

On successful completion of Online Workshop on "LaTeX" jointly organized by MIT College Of Railway Engineering and Research Barshi & Spoken Tutorial Project, IIT Bombay, from 14th-17th May 2020.

Co-ordinator	Convener	Principal
Prof. Vishal Jagadale	Dr. Vishnu Suryawanshi	Dr. A Venkatesan

441

MAEER'S

MIT COLLEGE OF RAILWAY ENGINEERING AND RESEARCH, BARSHI-413401.

Approved by AICTE, Govt. of Maharashtra and Affiliated to
Punyashlok Ahilyadevi Holkar Solapur University, Solapur.
(DTE CODE EN:6901)

Spoken Tutorial
IIT Bombay

Online Workshop for Students and Faculty Development Programme On "LaTeX"

CERTIFICATE OF PARTICIPATION

Presented to
Rachana Mahule

On successful completion of Online Workshop on "LaTeX" jointly organized by MIT College Of Railway Engineering and Research Barshi & Spoken Tutorial Project, IIT Bombay, from 14th-17th May 2020.

Co-ordinator	Convener	Principal
Prof. Vishal Jagadale	Dr. Vishnu Suryawanshi	Dr. A Venkatesan

442

Dr. Rajendra Gode Institute of Technology & Research, Amravati

Affiliated to SGBAU | Accredited by NAAC

Dr. Rajendra Gode Educational Campus, University Road, Amravati - 444602 www.drgitr.com

भारतीय राष्ट्रीय युवा परिषद
National Youth Council of India

Certificate of Participation

BRAIN O VISION

This is to certify that Mr./Ms./Mrs **Aparna Sanjay Bhande**
has participated in a 5-Day-National Level **Online Faculty Development Program** on **Artificial Intelligence** from 22nd May 2020 to 26th May 2020 organised by the Department of Computer Science & Engineering in association with **National Youth Council of India** and **Brainovision Solutions India Pvt. Ltd** setting a proud world record with 13000 diligent learners across the nation.

Datchana Moorthy	**Ganesh Nag Doddi**	**Prof. N. E. Karale**	**Dr. S. W. Mohod**	**Dr. P. B. Patil**
National Executive President, NYCI	CEO of Brainovision	Coordinator	Convener	Principal

Dr. Rajendra Gode Institute of Technology & Research, Amravati

Affiliated to SGBAU | Accredited by NAAC

Dr. Rajendra Gode Educational Campus, University Road, Amravati - 444602 www.drgitr.com

भारतीय राष्ट्रीय युवा परिषद
National Youth Council of India

Certificate of Participation

BRAIN O VISION

This is to certify that Mr./Ms./Mrs **Sandeep M Jadhav**

has participated in a 5-Day-National Level **Online Faculty Development Program** on **Artificial Intelligence** from 22nd May 2020 to 26th May 2020 organised by the Department of Computer Science & Engineering in association with **National Youth Council of India** and **Brainovision Solutions India Pvt. Ltd** setting a proud world record with 13000 diligent learners across the nation.

Datchana Moorthy	**Ganesh Nag Doddi**	**Prof. N. E. Karale**	**Dr. S. W. Mohod**	**Dr. P. B. Patil**
National Executive President, NYCI	CEO of Brainovision	Coordinator	Convener	Principal

444



Sant Gadge Baba Amravati University, Amravati

Re-Accredited with "A" Grade by NAAC



National Level FDP on G Suite & Allied Tools in Education, Teaching & E-Content Development

Organized By

P. G. Department of Computer Science & Engineering

CERTIFICATE OF PARTICIPATION

This is to certify that Prof./Dr./Mr./Ms./Mrs. **Aparna Sanjay Bhande** of PRPCEM, Amravati has participated and successfully completed the **One Week National Level Online Faculty Development Program on *"G Suite & Allied Tools in Education , Teaching & E-Content Development"*** held during the period 29 June 2020 to 04 July 2020, organized by Post Graduate Department of Computer Science & Engineering, Sant Gadge Baba Amravati University, Amravati.

Dr. V. M. Thakare	Dr. M.G. Chandekar	Dr. R. S. Jaipurkar	Dr. T. R. Deshmukh
Convener & Head	Hon'ble Vice-Chancellor	Hon'ble Pro Vice-Chancellor	Registrar

Certificate -id: 20200340

445

Sant Gadge Baba Amravati University, Amravati

Re-Accredited with "A" Grade by NAAC



National Level FDP on G Suite & Allied Tools in Education, Teaching & E-Content Development

Organized By

P. G. Department of Computer Science & Engineering

CERTIFICATE OF PARTICIPATION

This is to certify that Prof./Dr./Mr./Ms./Mrs. **Rachana V. Mahule** of P. R. Pote Patil College of Engineering and Management,Amravati has participated and successfully completed the **One Week National Level Online Faculty Development Program on *"G Suite & Allied Tools in Education , Teaching & E-Content Development"*** held during the period 29 June 2020 to 04 July 2020, organized by Post Graduate Department of Computer Science & Engineering, Sant Gadge Baba Amravati University, Amravati.

Dr. V. M. Thakare	Dr. M.G. Chandekar	Dr. R. S. Jaipurkar	Dr. T. R. Deshmukh
Convener & Head	Hon'ble Vice-Chancellor	Hon'ble Pro Vice-Chancellor	Registrar

Certificate -id: 20202636

446

Accredited by NAAC ISO 9001:2015 Certified Institution

TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology

GAIKWAD-PATIL GROUP OF INSTITUTIONS

(Approved by AICTE, Recognized by Govt. of Maharashtra & Affiliated to MSBTE, Mumbai)

DTE Code: 4151 www.tgpcet.com

CERTIFICATE OF PARTICIPATION

447

This is certify that Aparna Sanjay Bhande of PRPCEM AMRAVATI has successfully completed one week online faculty development program on "Advance Research Methodology and Innovative Teaching Pedagogy" organized by Tulsiramji Gaikwad- Patil College of Engineering and Technology, Nagpur from 08-06-2020 to 13-06-2020 in association with The Institution of Engineers (India), Indian Society for Technical Education.

Dr. S.S. Rathore
Principal, TGPCET

Prof. Pragati Patil
Vice-Principal (Admin)

Dr. Prabha Nair
HoD (CSE), FDP Coordinator

Certificate No: XVRPWS-CE000178

Date : 6/13/2020

Accredited by NAAC ISO 9001:2015 Certified Institution

TULSIRAMJI GAIKWAD-PATIL College of Engineering & Technology

(Approved by AICTE, Recognized by Govt. of Maharashtra & Affiliated to MSBTE, Mumbai)

DTE Code: 4151 www.tgpcet.com

GAIKWAD-PATIL GROUP OF INSTITUTIONS

CERTIFICATE OF PARTICIPATION

448

This is certify that Rachana Mahule of P. R. Pote Patil College of Engineering and Management, Amravati has successfully completed one week online faculty development program on "Advance Research Methodology and Innovative Teaching Pedagogy" organized by Tulsiramji Gaikwad- Patil College of Engineering and Technology, Nagpur from 08-06-2020 to 13-06-2020 in association with The Institution of Engineers (India), Indian Society for Technical Education.

Dr. S.S. Rathore	Prof. Pragati Patil	Dr. Prabha Nair
Principal, TGPCET	Vice-Principal (Admin)	HoD (CSE), FDP Coordinator

Certificate No: XVRPWS-CE001108 Date : 6/14/2020

JSPM's

Rajarshi Shahu College of Engineering, Tathawade, Pune - 411033

(An Autonomous Institute, Affiliated to SPPU, AICTE Approved)

Department of Computer Engineering

Organized

Faculty Awareness Program on NBA and Outcome Based Education (OBE).

CERTIFICATE OF PARTICIPATION

This is to Certify that **Mr./Ms./Mrs. Sandeep M. Jadhav** has participated in "**Faculty Awareness Program on NBA and Outcome Based Education (OBE).**" organized by Department of Computer Engineering, JSPM's Rajarshi Shahu College of Engineering, Tathawade, Pune - 411033.

Prof. R. A. Deshmukh
Prof. K. P. Moholkar
Event Coordinator

Dr. Seema V. Kedar
Dean Academics
HOD Comp. Dept.

Dr. R. K. Jain
Director, JSPM's RSCOE

449

MBA 283.

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

Presents

Global Conference on Multidisciplinary Research

GCMR-2019

www.gcmr.in

7th & 8th November 2019

Certificate

This is to certify that

Prof./Dr./Mr./Ms. Sagar R. Shah

of P. R. Pote Patil College of Engg. and Management, Amt

has participated / presented a paper entitled NBFC: Growth prospects, issues, and challenges in India *at*

" Global Conference on Multidiscplinary Research 2019 " held on 7th-8th November 2019 at P.R. Pote (Patil) Education & Welfare Trust's Group of Institutions, College of Engineering & Management, Amravati.

Dr. S. B. Warkad	Dr. Mrs. S. D. Wakde	Prof. P. R. Wadnerkar	Dr. A. D. Bhoyar
Dean (R&D)	Principal, PRPCE&M	Vice-Principal, PRPCE&M	Dean (Academics)

Yashika Publications

457

One Week

WINTER SCHOOL ON RESEARCH METHODS

December 7-12, 2019

Certificate of Participation

This is to certify that

Sanjeev Kumar Singh

has attended the
Winter School on Research Methods
organized by
the Department of Business Administration
Faculty of Management Studies & Research
Aligarh Muslim University

Prof. Parvaiz Talib
Chairman

Prof. Bilal Mustafa Khan
Convener

Prof. Valeed A. Ansari
Dean

NIRMA UNIVERSITY
INSTITUTE OF MANAGEMENT

Certificate of Participation

This is to certify that

Prof. / Dr. / Mr. / Ms. AKASH NAIGAONKAR

has participated in

23rd Nirma International Conference on Management (NICOM – 2020) on

Marketing Landscape: Change in the Making

at the Institute of Management, Nirma University, Ahmedabad, January 03-05, 2020.

He / She has presented the paper titled

An Evaluative Study of Cognitive and Emotional Responses of Consumers towards Marketing - Stimuli through Traditional Neuro-marketing Approach

Co-authored by

Dr. Sapna Parashar
(Conference Chairperson)

Dr. Tejas Shah
(Conference Chairperson)

Dr. M. Mallikarjun
(Director, IMNU)

452

Certificate of Participation

This is to certify that

Prof. / Dr. / Mr. / Ms. SAURABH SHINDE

has participated in

23rd Nirma International Conference on Management (NICOM – 2020) on

Marketing Landscape: Change in the Making

at the Institute of Management, Nirma University, Ahmedabad, January 03–05, 2020.

He / She has presented the paper titled

Investor's awareness scrutiny towards electronic investment avenues with specific reference to Amravati City

Co-authored by

SACHINKUMAR KADU

Dr. Sapna Parashar
(Conference Chairperson)

Dr. Tejas Shah
(Conference Chairperson)

Dr. M. Mallikarjun
(Director, IMNU)

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

Index

Session 2019-20

3.4 Extension Activities

3.4.1 - Number of extension and outreach program conducted in collaboration with industry, community

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	454
2	First Year Engineering	455-465
3	Civil Engineering	466-470
4	MCA	471-474
5	Mechanical Engineering	475-483
4	Electrical Engineering	484-490
5	Computer Engineering.	491-493

3.4 Extension Activities

3.4.1 - Number of extension and outreach program conducted in collaboration with industry, community and

Sr. No.	Title of the activities	Organizing unit/agency/collaborating agency	No. of teachers co-ordinate such activities	No. of students participated in such activities
01.	Virtual Lab	IIT Bombay	01	50
02.	IIT Spoken Tutorial	IIT spoken Online Tutorial and test	01	105
03	Virtual Lab	IIT Bombay	02	180
04	INDUSTRIAL AUTOMATION – PLC/SCADA	Autosys Automation Indore	02	35
05	Virtual Lab	IIT Bombay	01	35

for

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

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

Report on IIT spoken test-Winter 2019

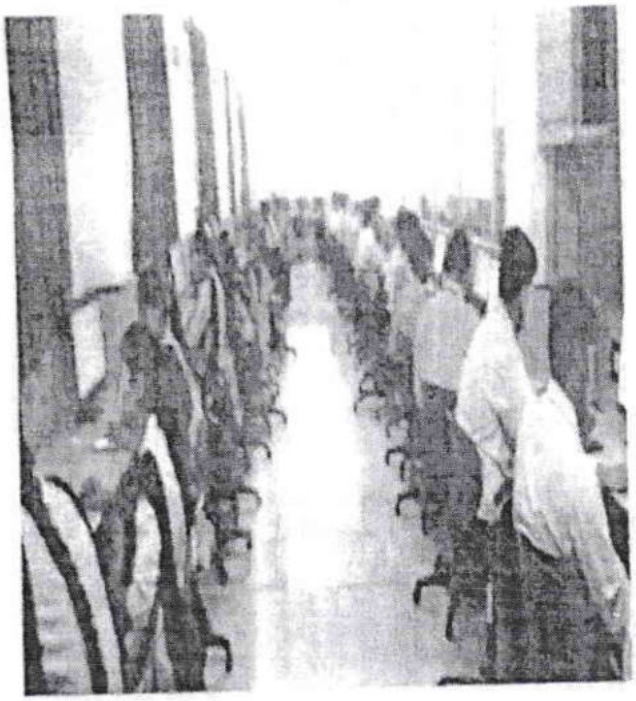
Name of the Department: B.E. First Year Department

Test subject: Introduction to Computers

Total no. of Students appeared: 105

Total no. of Students certified: 86

Photos of test conducted:



Keyword Search

For the purpose of course selection go here Software Offered

ıe Test

ted New Pending Waiting for Invigilator Approved Ongoing Completed Reschedule Rejected

ite	Academic Code	Institution	Organiser	FOSS	Date	Participants
arashtra	MAH-00241	P R Pote Group of Educational Trust s College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 1 p m	37
harashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 3 p m	13
harashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 3 05 p m	10
harashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	19 Nov 2019 3 p m	23
harashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	19 Nov 2019 3 05 p m	22

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IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote Patil Education and Welfare Trusts, College of Engineering & Management
Region: Nagpur
Workshop Date: 2019-09-20

Department: Computer Engineering
Users: 2
Usage: 2

Department: Mechanical Engineering
Users: 1
Usage: 3

Cumulative Usage Calculation

Total Users: 3
Total Usage: 5

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare Prof. Z. I. Khan

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

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote Patil Education and Welfare Trusts, College of Engineering & Management
Region: Nagpur
Workshop Date: 2019-09-21

Department: Computer Engineering
Users: 1
Usage: 1

Department: Mechanical Engineering
Users: 1
Usage: 3

Cumulative Usage Calculation

Total Users: 2
Total Usage: 4

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IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote Patil Education and Welfare Trusts, College of Engineering & Management
Region: Nagpur
Workshop Date: 2019-09-24

Department: Computer Engineering
Users: 1
Usage: 1

Department: Mechanical Engineering
Users: 1
Usage: 3

Department: Mechanical_Engineering
Users: 1
Usage: 2

Cumulative Usage Calculation

Total Users: 3
Total Usage: 6

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare Prof. Z. I. Khan

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

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

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

Report on IIT spoken test-Winter 2019

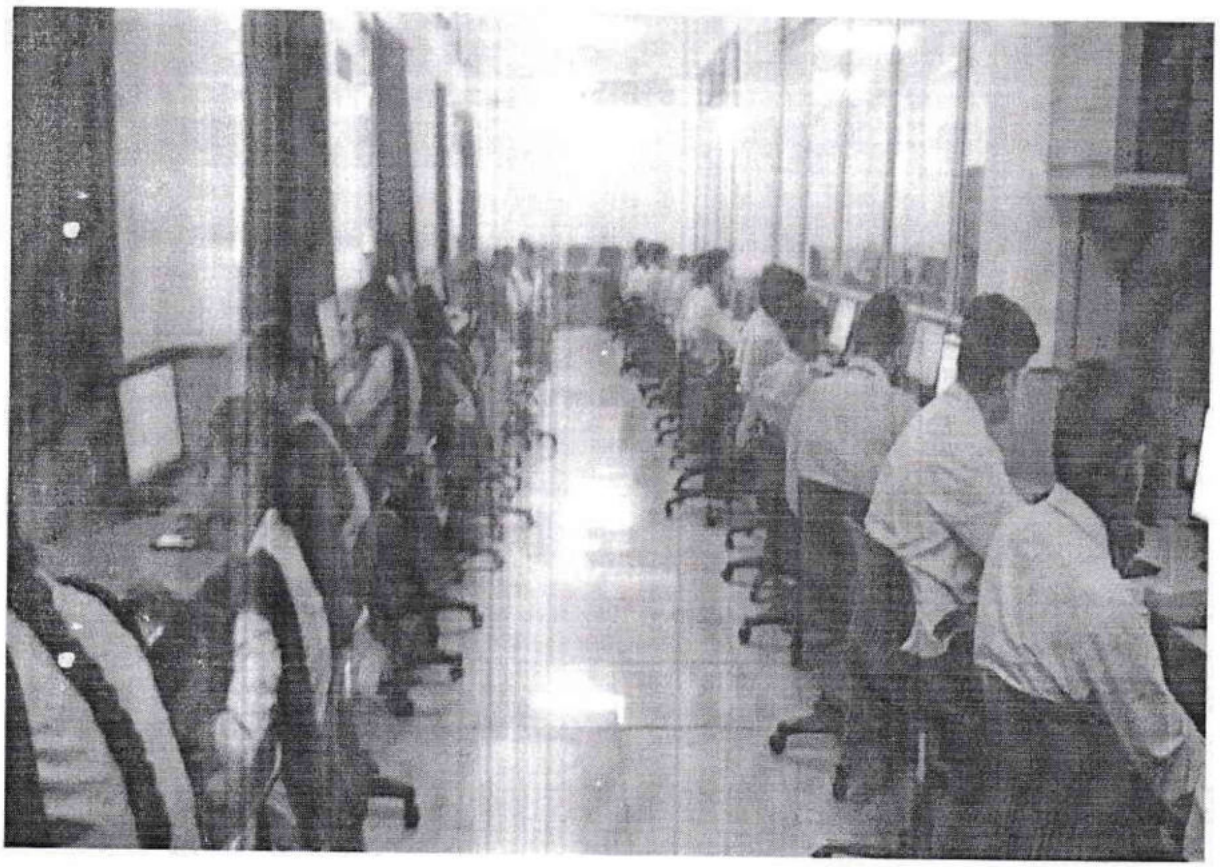
Name of the Department: B.E. First Year Department

Test subject: Introduction to Computers

Total no. of Students appeared: 105

Total no. of Students certified: 86

Photos of test conducted:



For the purpose of course selection, go here : Software Online

Keyword Search

Dashboard

Online Test

Pre-Dated | New | Pending | Waiting for Invigilator | Approved | Ongoing | Completed | Reschedule | Rejected

#	State	Academic Code	Institution	Organiser	FOSS	Date	Participants	
1	Maharashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 1 p.m	37	View Participant
2	Maharashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 3 p.m	13	View Participant
3	Maharashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	04 Dec 2019 3.05 p.m	10	View Participant
4	Maharashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	19 Nov 2019 3 p.m	23	View Participant
5	Maharashtra	MAH-00241	P R Pote Group of Educational Trust's College of Engineering & Management	Smita	Introduction to Computers	19 Nov 2019 3.05 p.m	22	View Participant

2019-20

IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. POTE PATIL EDUCATION AND WELFARE TRUST, GROUP OF INSTITUTIONS, COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI
Region: Nagpur
Workshop Date: 2020-02-28
Workshop Type: Workshop

Department: Civil Engineering
Users: 26
Usage: 38

Department: Computer Engineering
Users: 38
Usage: 210

Department: Computer Science (Non Engineering)
Users: 2
Usage: 4

Department: Electrical Engineering
Users: 1
Usage: 2

Cumulative Usage Calculation

Total Users: 67
Total Usage: 254

Nodal Coordinator: Prof. P. B. Sambhare
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. Z. I. Khan

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2019-20.

2019-20.

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

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

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IIT Bombay | Virtual Labs

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote Patil Education and Welfare Trusts, College of Engineering & Management
Region: Nagpur
Workshop Date: 2019-03-13

Department: Electrical Engineering
Users: 2
Usage: 5

Cumulative Usage Calculation

Total Users: 2
Total Usage: 5

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare

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

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

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Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. POTE PATIL EDUCATION AND WELFARE TRUST, GROUP OF INSTITUTIONS, COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI
Region: Nagpur
Workshop Date: 2020-02-25
Workshop Type: Workshop

Department: Civil Engineering
Users: 7
Usage: 7

Department: Computer Engineering
Users: 22
Usage: 24

Department: Electrical Engineering
Users: 5
Usage: 5

Department: Electronics and Telecomunications Engineering
Users: 2
Usage: 2

Department: Mechanical Engineering
Users: 1
Usage: 1

Department: Mechanical_Engineering
Users: 1
Usage: 10

Department: Others
Users: 7
Usage: 10

Cumulative Usage Calculation

Total Users: 45
Total Usage: 59

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2019-20.

Nodal Coordinator: Prof. P. B. Sambhare
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. Z. I. Khan

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

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

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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2019-20.

IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. POTE PATIL EDUCATION AND WELFARE TRUST. GROUP OF INSTITUTIONS, COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI
Region: Nagpur
Workshop Date: 2020-02-26
Workshop Type: Workshop

Department: Civil Engineering
Users: 7
Usage: 7

Department: Computer Engineering
Users: 45
Usage: 160

Department: Electrical Engineering
Users: 3
Usage: 3

Department: Electronics and Communications
Users: 1
Usage: 1

Department: Electronics and Telecomunications Engineering
Users: 9
Usage: 10

Department: Mechanical Engineering
Users: 12
Usage: 50

Department: Mechanical_Engineering
Users: 16
Usage: 96

Department: Others
Users: 6
Usage: 55

Cumulative Usage Calculation

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2019-20.

Total Users: 99
Total Usage: 382

Nodal Coordinator: Prof. P. B. Sambhare
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. Z. I. Khan Prof. S. J. Deshmukh

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

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

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote (Patil) College of Engineering & Management, Amravati
Region: Nagpur
Workshop Date: 2019-09-17

Department: Computer Engineering
Users: 1
Usage: 1

Department: Mechanical Engineering
Users: 4
Usage: 8

Department: Mechanical_Engineering
Users: 4
Usage: 15

Cumulative Usage Calculation

Total Users: 9
Total Usage: 24

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare Prof. Z. I. Khan

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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IIT Bombay | Virtual Labs

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote (Patil) College of Engineering & Management, Amravati
Region: Nagpur
Workshop Date: 2019-09-18

Department: Computer Engineering
Users: 12
Usage: 14

Department: Mechanical Engineering
Users: 1
Usage: 6

Department: Others
Users: 8
Usage: 8

Cumulative Usage Calculation

Total Users: 21
Total Usage: 28

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare Prof. Z.I. Khan

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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M. G. Gore

15 – 15

884

2019-20

Elect.

IIT Bombay | Virtual Labs

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. Pote Patil Education and Welfare Trusts, College of Engineering & Management
Region: Nagpur
Workshop Date: 2019-03-13

Department: Electrical Engineering
Users: 2
Usage: 5

Cumulative Usage Calculation

Total Users: 2
Total Usage: 5

Nodal Coordinator: Prof. A. B. Gadicha
System Support: Mr. Ritesh Amazare
Coordinating Team: Prof. P. B. Sambhare

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

Nodal Coordinator Signature

Head of Institute / Principal
Signature & Stamp

Send the hard copy of report to (Prof. Santosh Noronha, Lab 125B, Dept. of Chemical Engineering, IIT Bombay, Powai, Mumbai 76)

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Virtual

An initiative of Ministry of Human Resource Development
under the National Mission on Education through ICT
www.vlabs.iitb.ac.in

Santosh Noronha
Chemical Engineering ;
Healthcare, Educational Tech
Indian Institute of Technology Bombay, Powai,
noronha@iitb.ac.in
(22)25767238 / 25764246
(22)25764227
Mumbai, 400 076, India.

NCID - 50

Ref No: VL/MP2/NC50/19

15th March 2019

To,
Dr. Mrs. S. D. Wakde
P. R. Pote (Patil) College of Engineering & Management, Amravati
Pote Estate, Kathora Road,
Amravati - 444604, Maharashtra

Dear Sir / Madam,

With reference to your Expression of interest for Virtual Labs Nodal Centre (VLNC), it gives me immense pleasure to designate your college as a Nodal Centre for Virtual labs. As recommended by you, **Prof. A. B. Gadicha** has been nominated as the Nodal Coordinator and **Prof. A. K. Jamnekar** has been nominated as the Nodal Technical Coordinator from your college. This approval is valid up to 31st Dec 2019 and is subject to the Terms and Conditions attached and any subsequent directives as issued by MHRD.

Kindly acknowledge receipt of this letter and acceptance of the Terms and Conditions.

We thank you again for your interest in the Virtual Labs project and appreciate your endeavour in the service of the student community. Wishing you all the best!

Sincerely,

Prof. Santosh Noronha

2019-20

IIT Bombay | Virtual

Virtual Labs Workshop Report

Nodal Center ID: 50
Name of VLNC: P. R. POTE PATIL EDUCATION AND WELFARE TRUST. GROUP OF INSTITUTIONS. COLLEGE OF ENGINEERING AND MANAGEMENT. AMRAVATI
Region: Nagpur
Workshop Date: 2020-02-25
Workshop Type: Workshop

Department: Civil Engineering
Users: 7
Usage: 7

Department: Computer Engineering
Users: 22
Usage: 24

Department: Electrical Engineering
Users: 5
Usage: 5

Department: Electronics and Telecomunications Engineering
Users: 2
Usage: 2

partment: Mechanical Engineering
Users: 1
Usage: 1

Department: Mechanical_Engineering
Users: 1
Usage: 10

Department: Others
Users: 7
Usage: 10

Cumulative Usage Calculation

Total Users: 45
Total Usage: 59

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

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Session 2019-20

3.4.3 - Students participating in extension activities with Government Organizations, Non-Government

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	495
2	NSS	496-506

3.4.3 - Students participating in extension activities with Government Organizations, Non-Government

Name of the scheme	Organizing unit/ agency/ collaborating agency	Name of the activity	Number of teachers coordinated such activities	Number of students participated in such activities
NSS	SGBAU, Amravati	Awareness & Relief Program on Covid-19	01	50

for

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

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

COVID-19 NSS Report

Program Officer
Prof. S. S. Mendhe
Prof. P. M. Manakar

Principal
Dr. Mohd. Zuahair

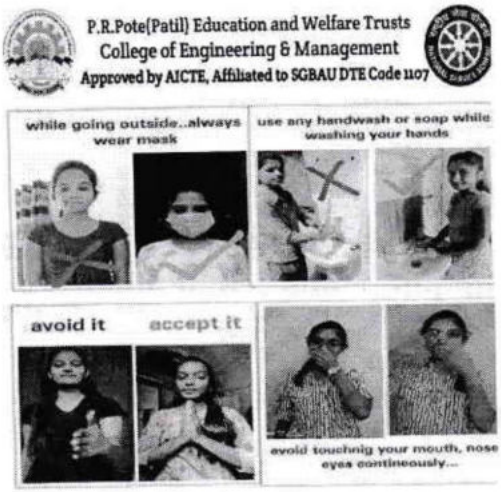
H.O.D. (Mech. Dept.)
P.R.Pote (Patil) College of Engg. & Management
Amravati

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

National Service Scheme (2019-20)

Awareness and Relief Program on COVID 19 -13 April 2020

The NSS Unit of P.R. Pote(Patil) College of Engineering & Management Amravati organized an awareness programed on COVID19 for students and the public and also distributed relief packages. 20 students from our college participated in the event and held charts and chanted slogans in order create awareness on protecting ourselves from the dangers of the Corona Virus. The images and videos from the event has been uploaded on social media platforms like Facebook and Youtube and till date we have had more than 1000 viewers and 100 shares. In addition, on 13 April 2020 students and sweepers of P. R. Pote(Patil)College of Engineering & Management Amravati. Total number of sweepers received is 30sweepers. The relief package carries an envelope with ₹ 1000 cash, 30 kgs Grains and 10 kgs of vegetables







FREDOM-FEST 2020 Poster making, Article & Poem Competition- 1508/2020

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.



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

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Session 2019-20

3.5 Collaborations

3.5.1 - Number of Collaborative activities for research, faculty exchange, student exchange during the year 2019-20

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	507

3.5 Collaborations

3.5.1 - Number of Collaborative activities for research, faculty exchange, student exchange during the year 2019-20

Nature of Activity	Participant	Source of financial	Duration
NIL	00	NIL	NIL

H.O.D. (Mech. 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

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Session 2019-20

3.5.2 - Linkages with institutions/industries for internship, on-the-job training, project work, sharing of facility.

Sr.No.	Particulars	Page Number
1	AQAR Cover Page	508
2	Mechanical Engineering	509-517
3	Electrical Engineering	518-552
4	Electronics & Telecommunication Engineering	553-560

3.5.2 - Linkages with institutions/industries for internship, on-the-job training, project work, sharing of facility

Nature of linkage	Title of the Linkage	Name of the partnering institution/ industry	Duration (From-To)	Participant
Name of Department: Mechanical Engineering				
Training	Internship	Industrial Training at Finlay Mill, Achalpur	30/12/2019 to 13/01/2020	7
Training	Internship	MAHAGENCO Sub-center, TPS, Paras	10/06/2019 to 06/07/2020	2
Training	Internship	Jadhav Gears Limited, Amravati	26/12/2019 to 05/01/2020	1
Training	Internship	Central Farm Machinery Training & Testing Institute, Budani, MP	01/07/2019 to 26/07/2019	3
Training	Internship	Government ITI, Amravati	05/08/2019 to 16/08/2019	1
Name of Department: Electrical Engineering				
Summer training	Internship	Chandrapur, Korardi, Bhusawal, Paras, Thermal Power Station	15 Days	12
Summer training	Internship	Ratan India Power Ltd.	30 Days	16
Name of Department: Electronics & Telecommunication Engineering				
MoU	To make aware faculty and students of recent technology.	MDB Electrosoft, Amravati	05/08/2019	40
MoU	To make students aware of the external technical environment	WebAkruti, Wardha	17/06/19 to 30/06/19	40

for

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

509

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

Pote Estate, Pote Patil Road, Kathora, Amravati. (Maharashtra)
0721-2530342, 44, 2530069 Fax No.: 0721- 2530341 Email: ppotepatilcollege@gmail.com, website: www.ppatilcollege.org
(Recognized by AICTE, New Delhi & Affiliated to SGBAU, Amravati)

PRPCEM/Trg/2019-20/08
Date: 17th Dec, 2019

To
General Manager
Finlay Mill
Achalpur

Sub: Permission for Internship

Dear Sir,

Following student belong to our Institute; learning in IIIrd year (Vth Semester) Bachelor of Mechanical Engineering. They are desirous of undergoing a practical training and internship at your works.

1.	Bhushan Dudhe	4.	Swapnil Tayade
2.	Sachin Yeul	5.	Pawan Sable
3.	Pratik Pote	6.	Nilesh Malkhede

7 Meeraj - Ul - haq

It is requested to please accord them permission for completing their internship as per the norms of your esteemed Organization. They will follow rules and regulations of your organization during theirstay at your works.

Kindly provide them necessary help during the internship. This work will be beneficial in improving heir practical knowledge.

With warm regards

Head/Mechanical Engg. Deptt.
(Dr. P. S. Ardak)

PRINCIPAL
(Dr. S. D. Wakde)
Principal
P. R. Pote (Patil)
College of Engineering & Management
Amravati

Finlay
Mills
ISO 9001:2008 Certified Company
A Unit of National Textile Corporation (WR) Ltd.
(A Govt. of India Undertaking)

एनटीसी
CIN No.U74899DL1968GOI004866

Amravati Road, Achalpur, Dist- Amravati Maharashtra- 444805
Contact: 07223-250412 (Fax)/250807/250613/250607/250616 E-Mail: gmfinlayachalpur@gmail.comWebsite –www.nicltd.org

Ref. No. Finlay/GM/2019-20/

Date – 16.01.2020

To Whomsoever It May Concern

This is to certify that Mr. Swapnil Laxman Tayde, student of IIIrd Year Mechanical Engineering of P.R. Pote College of Engineering, Amaravati has undergone training from 30.12.2019 to 13.01.2020 at our mills.

During the tenure of his training, we found him to be sincere towards the tasks allotted.

This certificate is being issued to him on his own request.

For Finlay Mills, Achalpur

16/1/2020

(Vipin D.Mohane)
Asstt.Manager (HR)
Asstt. Manager (H.R.)
Finlay Mills, Achalpur

JADHAO GEARS

JG/CAF/PHA/19-20/16 Date: 12th Jan 2020

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Manoj Rathod** student of (P.R. Pote Patil Edu. & Welf. Trust's Group of Institutions, College of Engineering & Management, Amravati) has completed his Internship in our Organization. His duration of training was from 26.12.2019 to 5.1.2020.

He has been sincere, hardworking and punctual in his work.

We wish him success in his future endeavors.

Jadhao Gears

M/s. Jadhao Gears Amravati

Authorised Signatory

JADHAO GEARS W-27, Street No.5, MIDC, Amravati-444 605 (M.S.) INDIA
Telefax.: +91 - 721 - 252 1382, 252 2078, 252 0807, Cell: +91 - 85549 97607 e-mail.: jadhao_gears@rediffmail.com

PTPS/TSC/VT-S/2019/Batch 02

MAHAGENCO

Maharashtra State Power Gen.Co. Ltd.

THERMAL POWER STATION, PARAS

Dist. Akola 444 109

ISO 50001 : 2011 Certified

Certificate

Vacation Industrial Training

This is to certify that Mr./Miss. **Vijay Shrikrushna Ghonge** Student of **P.R.Pote (Patil), College of Engineering & Management, Amravati** has Successfully undergone Summer In Plant Industrial Training at Training **Sub Centre, TPS Paras,** from Date **10/06/2019 to 06/07/2019.**

During the period of training his/her perfomance has been found to be very good.

Wish the very best his/her future endeavors.

OFFICE OF THE CHIEF ENGINEER M.S.P.G.C.L. T.P.S. PARAS DIST. AKOLA

CHIEF ENGINEER

MSPGCL TPS, PARAS.

Place : **Paras**

Date :**06.07.2019**

Sr.No. 14087

GOVERNMENT OF MAHARASHTRA
DEPARTMENT OF VOCATIONAL EDUCATION & TRAINING

avts AMRAVATI

Advanced Vocational Training System

GOVT. INDUSTRIAL TRAINING INSTITUTE, AMRAVATI. - 444 603

Proficiency Certificate

This is to certify that Shri. SAYYED ZUBAIR SAYYED QAYYUM _____ *has undergone full time course of Advanced training for* AMTM (Mech.) for 02 *Weeks From* 05 / 08 / 2019 *to* 16 / 08 / 2019 *in* MODULE - PREVENTIVE & TOTAL PRODUCTIVE MAINTENANCE. *Consisting of related theory and practice. His performance has been assessed and he has been declared to have* SUCCESSFULLY *Completed the course in testimony where of this Certificate of proficiency is awarded to him.*

Date : 16 / 08 / 2019

Training Officer
A.V.T.S.,Amravati.

Seal

Principal
A.V.T.S.,Amravati.

क्रम संख्या
Sl No

ST-735

कोर्स कोड
Course Code

A-1

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
CENTRAL FARM MACHINERY TRAINING AND TESTING INSTITUTE

AN ISO : 9001 -2015 CERTIFIED INSTITUTE

भारत सरकार
GOVERNMENT OF INDIA,
कृषि एवं किसान कल्याण मंत्रालय
MINISTRY OF AGRICULTURE AND FARMERS WELFARE,
कृषि, सहकारिता एवं किसान कल्याण विभाग
DEPARTMENT OF AGRICULTURE, CO-OPERATION AND FARMERS WELFARE
ट्रैक्टर नगर, बुदनी (म.प्र.) TRACTOR NAGAR, BUDNI (M.P.)

यह प्रमाण पत्र **श्री मोहित विलासराव ढोरे आत्मज श्री विलास एन ढोरे** को प्रदान किया जाता है, उन्होंने संस्थान पर दिनांक **01-07-2019** से **26-07-2019** तक **अकादमी स्तर** पाठ्यक्रम के अंतर्गत निम्नांकित विषयों पर प्रशिक्षण प्राप्त किया ।

This Certificate is awarded to **Shri MOHIT VILASRAO DHORE S/o Shri VILAS N. DHORE** who attended **Academic Level** training course at this Institute from **01-07-2019** to **26-07-2019** on the following subjects.

- ट्रैक्टर एवं कृषि मशीनरी का प्रचालन एवं रखरखाव।
  Operation and maintenance of Tractor and Agricultural machinery.
- ट्रैक्टर के विभिन्न उपांगों का अध्ययन।
  Study of various sub-assemblies of Tractor.
- पाँच अश्वशक्ति एकल सिलिण्डर डीजल इंजिन का अध्ययन, प्रचालन, मरम्मत व रखरखाव।
  Study, operation, maintenance and repair of 5 hp Single Cylinder Diesel Engine.
- ट्रैक्टर परीक्षण, गतिविधि एवं परीक्षण प्रकियाओं से परिचय।
  Introduction to tractor testing activities and testing procedure.

उन्होंने उक्त प्रशिक्षण पाठ्यक्रम सफलतापूर्वक पूर्ण किया ।
She/He completed the course successfully.

दिनांक **26-07-2019**
Date :

निदेशक
Director

525

S-19

RattanIndia

Ref. No. RPL/Amravati/Thermal/HR/Training/2018-19/072-01

Date:- July 22, 2019

To whom so ever it may concern

This is to certify that **Mr./Ms.Radhika Mendhe** Student of bachelor of Electrical Engineering from **P.R.Pote(Patil) College of Engineering & Management, Amravati** has satisfactorily completed his/her industrial training with us, as per following details:-

Name of the Department	: Operations & Maintenance Department
Duration	: 29th April 2019 to 14th May 2019

During Industrial Training we found him/her sincere.

We wish him/her all the success in his/her life.

For RattanIndia Power Limited

Authorized Signatory

RattanIndia Power Limited
(formerly Indiabulls Power Limited)
Registered Office: 5th Floor, Tower-B, Worldmark-1, Aerocity, New Delhi – 110 037
Tel: +91- 011-66612666, Fax: +91- 011-66612777
Website: www.rattanindia.com
CIN: L40102DL2007PIC169082

MAHAGENCO

MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED

CHANDRAPUR SUPER THERMAL POWER STATION, CHANDRAPUR - 442 404

AN ISO 9001, 14001 & OHSAS 18001 UNIT

Certificate

INDUSTRIAL TRAINING COURSE

This is to certify that,

Mr. / Ms. / Miss Amruta Sanjayrao Chaudhary

Student from P. R. Pote (Patil) College of Engineering and Management of 6th sem.

Has successfully completed Industrial Training Course at

Chandrapur Super Thermal Power Station,

Chandrapur.

From 08 to 15 JAN 2019

This certificate is issued to him / her for successfully completion of Industrial Training with satisfactory performance.

TRAINING SECTION MAHAGENCO

Date : 15 JAN 2019

Place : CSTPS, CHANDRAPUR

CHIEF ENGINEER
CSTPS CHANDRAPUR

Scanned with CamScanner

553 / 569

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.

560 1576

Students participated in Webakruti

1	Aachal Wankhade	
2	Ku. Aishwarya R Kokate	
3	Ku. Aishwarya Deshmukh	
4	Ku. Anjali H. Nandurkar	
5	Ku. Arati S.Nagpure	
6	Ku. Deeksha S Kshirsagar	
7	Ku. Kshtija W Ghatol	
8	Ku. Manju S Vinchurkar	
9	Ku. Mayuri Chaudhary	
10	Ku. Mrunal R. Radake	
11	Mrunmai Bagalkar	
12	Ku. Neha Sunil Kubade	
13	Ku. Nikita Dilip Fasate	
14	Ku. Nitisha Ganpat Bari	
15	Ku. Pooja I. Bairagi	
16	Ku. Poonam U. Gawande	
17	Ku. Pranita Nandu Ubhad	
18	Ku. Priti P. Wankhade	
19	Ku. Priyanka S. Dhawale	
20	Ku. Punam G. Bharambe	
21	Ku. Purva Shnakar Rokade	
22	Ku. Radhika R Shankar	
23	Ku. Rakshanda Chandekar	
24	Rushanki Belokar	
25	Ku. Samrudhi M Harode	
26	Ku. Shital Sanjay Sonare	
27	Ku. Shital Santosh Hirkane	
28	Shivani Kene	
29	Ku. Shraddha D. Nimkar	
30	Ku. Shradha Dilip Warhade	
31	Ku. Shrutika V. Yenkar	
32	Ku. Shweta R Dandage	
33	Ku. Vaishnavi Wankhade	
34	Ku. Vedika Panjabrao Joge	
35	Ku. Vijaya Pramod Gulhane	
36	Aditya Ashokrao Aherakr	
37	Ajay Bhagwan Jadhao	
38	Ajay Mishra	
39	Ajay Vilasrao Uike	
40	Arjun Pratapsingh Chauhan	

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

5570 | 573

Webakruti
We Are The Change
Plot No. 254, Dongre Layout, Abhyankar Nagar, Nagpur (MH) India - 440010
+91-9021345794, +91-738/863841, +91-738/990061

Ref. No: Wkt/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.

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, Amra
Signature with Date

13/06/2018

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.

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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.

560 | 576

Students participated in Webakruti

1	Aachal Wankhade	
2	Ku. Aishwarya R Kokate	
3	Ku. Aishwarya Deshmukh	
4	Ku. Anjali H. Nandurkar	
5	Ku. Arati S.Nagpure	
6	Ku. Deeksha S Kshirsagar	
7	Ku. Kshtija W Ghatol	
8	Ku. Manju S Vinchurkar	
9	Ku. Mayuri Chaudhary	
10	Ku. Mrunal R. Radake	
11	Mrunmai Bagalkar	
12	Ku. Neha Sunil Kubade	
13	Ku. Nikita Dilip Fasate	
14	Ku. Nitisha Ganpat Bari	
15	Ku. Pooja I. Bairagi	
16	Ku. Poonam U. Gawande	
17	Ku. Pranita Nandu Ubhad	
18	Ku. Priti P. Wankhade	
19	Ku. Priyanka S. Dhawale	
20	Ku. Punam G. Bharambe	
21	Ku. Purva Shnakar Rokade	
22	Ku. Radhika R Shankar	
23	Ku. Rakshanda Chandekar	
24	Rushanki Belokar	
25	Ku. Samrudhi M Harode	
26	Ku. Shital Sanjay Sonare	
27	Ku. Shital Santosh Hirkane	
28	Shivani Kene	
29	Ku. Shraddha D. Nimkar	
30	Ku. Shradha Dilip Warhade	
31	Ku. Shrutika V. Yenkar	
32	Ku. Shweta R Dandage	
33	Ku. Vaishnavi Wankhade	
34	Ku. Vedika Panjabrao Joge	
35	Ku. Vijaya Pramod Gulhane	
36	Aditya Ashokrao Aherakr	
37	Ajay Bhagwan Jadhao	
38	Ajay Mishra	
39	Ajay Vilasrao Uike	
40	Arjun Pratapsingh Chauhan	

H.O.D. (EXTC 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

Index

Session 2019-20

3.5.3 MoUs signed with institutions of national, international importance, other universities, corporate houses etc. during the year.

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2	Computer Engineering	562-564
3	Mechanical Engineering	565-568
4	Electronics & Telecommunication Engineering	569-576

3.5.3 MoUs signed with institutions of national, international importance, other universities, corporate houses etc. during the year

Sr. No.	Organization	Date of MoU signed	Purpose	Number of students/teachers participated
Name of Department: Computer Engineering				
1	National Univ. of Malaysia	19/08/2019	Student and faculty Exchange program	180
2	Multimedia Univ of Malaysia	10/10/2019	Student and faculty Exchange program	180
Name of Department: Mechanical Engineering				
1	Indo Vidharbh Tool Room (IVTR), Akola	12/03/2020	Training and placement of students.	21
Name of Department: Electronics & Telecommunication Engineering				
1	MDB Electrosoft, Amravati	10/08/2018	To make aware faculty and students of recent technology.	40
2	WebAkruti, Wardha	16/10/2018	To make students aware of the external technical environment	40

for.

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

MEMORANDUM OF UNDERSTANDING

BETWEEN

MULTIMEDIA UNIVERSITY®

UNIVERSITI TELEKOM SDN. BHD.
(Company No. 436821-T)
(Registered owner of **Multimedia University**)

AND

P. R. POTE (PATIL) EDUCATION AND WELFARE TRUST'S, GROUP OF INSTITUTIONS, COLLEGE OF ENGINEERING AND MANAGEMENT, AMRAVATI (MS), INDIA

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

LETTER OF INTENT FOR COOPERATION BETWEEN UNIVERSITI KEBANGSAAN MALAYSIA AND P. R. POTE (PATIL) EDUCATION AND WELFARE TRUST'S GROUP OF INSTITUTIONS COLLEGE OF ENGINEERING & MANAGEMENT, AMRAVATI (MS), INDIA

In order to promote the mutual interests between the Parties, Universiti Kebangsaan Malaysia (UKM) through its Faculty of Engineering and Built Environment, and Faculty of Engineering and Technology, P. R. Pote (Patil) Education and Welfare Trust's Group of Institutions, College of Engineering and Management (PRPCE&M) agree to exercise their best efforts to develop the following forms of cooperation:

a) Student Exchange program;
b) Faculty Exchange Program;
c) Internship for students;
d) Collaborative Research on common area of interest;
e) Organisation of Joint Conferences and Seminars; and
f) Strengthen International cooperation (India and Malaysia).

Both parties shall appoint a coordinator from each party for the development and management of joint activities.

Both parties understand that all financial arrangements will have to be negotiated and will depend on the availability of funds.

Details for the implementation of specific projects will be mutually developed.

In the event where both parties wish to formalise the abovementioned academic and research collaboration, the parties may enter into a Memorandum of Understanding (MoU) or a Memorandum of Agreement (MoA) of which the MoA shall have a binding effect on both parties.

The undersigned being duly authorised thereto, have signed this Letter of Intent, on this 19th July 2019.

For
UNIVERSITI KEBANGSAAN MALAYSIA

.....
PROF. IR. DR. SHAHRIR ABDULLAH
Dean
Faculty of Engineering and Built Environment
Universiti Kebangsaan Malaysia

For
P. R. POTE (PATIL) EDUCATION AND WELFARE TRUST'S GROUP OF INSTITUTIONS COLLEGE OF ENGINEERING & MANAGEMENT

.....
DR. MRS.S.D.WAKDE
Principal
Faculty of Engineering and Technology
P. R. Pote (Patil) Education and Welfare Trust's
Group of Institutions College of Engineering
& Management

IN WITNESS WHEREOF, the Parties hereto have caused this MoU to be duly executed on the day and year first above mentioned.

SIGNED by)
)
for and on behalf of the)
UNIVERSITI TELEKOM SDN. BHD)
(as the registered owner of)
MULTIMEDIA UNIVERSITY))

Prof. Datuk Ts Dr. Ahmad Ibrahim Fahaq
President / Chief Executive Officer

in the presence of :-

Dr. Ooi Chee Pun
Dean of Faculty of Engineering

SIGNED by)
for and on behalf of)
P. R. POTE (PATIL) EDUCATION AND)
WELFARE TRUST'S,)
GROUP OF INSTITUTIONS,)
COLLEGE OF ENGINEERING AND)
MANAGEMENT, AMRAVATI (MS),)
INDIA)

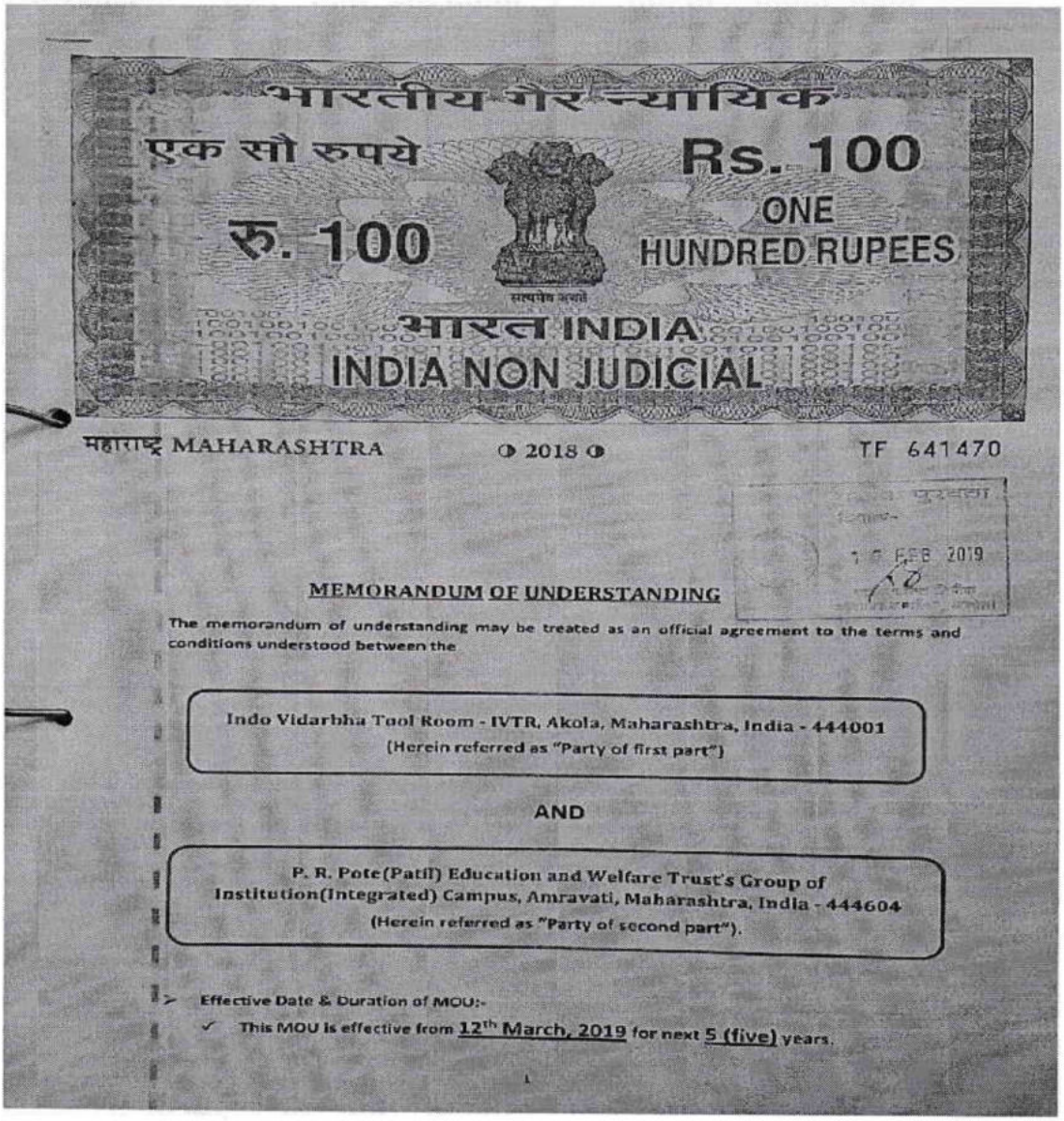
Mr. Pravin Pote
Chairman, P. R. Pote (Patil) Education and
Welfare Trust's, Group of Institutions,
Amravati (MS), India

in the presence of :-

Dr. Mrs. S. D. Wakde
Principal, P. R. Pote College of Engineering
and Management, Amravati (MS), India

3.5.3 - MoUs signed with institutions of national, international importance, other universities, corporate houses etc. during the year

Sr. No.	Organization	Date of MoU signed	Purpose and	Number of students/teachers participated
Name of Department: Mechanical				
1	Indo Vidharbh Tool Room (IVTR), Akola	12/03/2020	Training and placement of students.	21



भारतीय गैर न्यायिक

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ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA ◑ 2018 ◑ TF 641470

12 FEB 2019

MEMORANDUM OF UNDERSTANDING

The memorandum of understanding may be treated as an official agreement to the terms and conditions understood between the

Indo Vidarbha Tool Room - IVTR, Akola, Maharashtra, India - 444001
(Herein referred as "Party of first part")

AND

P. R. Pote(Patil) Education and Welfare Trust's Group of Institution(Integrated) Campus, Amravati, Maharashtra, India - 444604
(Herein referred as "Party of second part").

- Effective Date & Duration of MOU:-
  - ✓ This MOU is effective from 12th March, 2019 for next 5 (five) years.

25 FEB 2019

HOD of Design Training Centre
IVTR, DTC, Design Centre
Akola, Maharashtra - 444001

As per the negotiations held between the two parties, the following things are agreed upon:

- Party of first part will be going conduct two and half year "Design Training Placement Platform (DTPP)" Program for B.E. (Mechanical) students of 2nd year providing training on design software's includes CATIA, ANSYS, MASTERCAM, CREO, AUTOCAD and SOLIDWORKS in 3rd year (5th and 6th semester) and placement platform in 4th year (7th and 8th semester) and six month after pass out including internship opportunity in association with Party of second part for the period of 5 (five) years.

- Date and Time Schedule of DTPP program for this year (First Batch) is given below:

Sr. No.	Description	Start Date	Last Date
1.	Registration Date (Pay Rs. 500/- and sign on Bill Book) (Minimum students requirement (adjustable) = 25)	01st January, 2019	28th March, 2019
2.	Checking Computer System and Installing Software's (CATIA + AUTOCAD + MASTERCAM)	01st July, 2019	13th July, 2019
3.	1st Semester Software Training (13 weeks) (5 days in a week) (Saturday and Sunday is holiday) (2 hrs a Day) (CATIA + AUTOCAD + MASTERCAM)	15th July, 2019	05th October, 2019
4.	Training Time (For both 1st and 2nd Semester) (Adjusted as per college and students requirement)		

5.	1st Installment of Rs. 6000/- (sign on Bill Book) (No extension in fees payment period)	15th July, 2019	30th July, 2019
6.	Checking Computer System and Installing Software's (CREO + SOLIDWORKS + ANSYS)	21st December, 2019	03rd January, 2020
7.	2nd Semester Software Training (14 weeks) (5 days in a week) (Saturday and Sunday is holiday) (2 hrs a Day) (CREO + ANSYS + SOLIDWORKS)	06th January, 2020	11th April, 2020
8.	2nd Installment of Rs. 6000/- (sign on Bill Book)(No extension in fees payment period)	06th January, 2020	20th January, 2020
9.	Registered Certificates & Giving shares of party of second part	15th July, 2020	01st August, 2020
10.	Soft Skill Training with Interview Preparation	01st July, 2020	30th July, 2020
11.	Test for Generating Score Card (Prepare for the test) (Syllabus is "Soft Skill + Aptitude + Reasoning +Verbal Ability + Basic Knowledge of Subjects")	01st August, 2020	30th September, 2020
12.	Internship & Providing Topics for Project based on CAD/CAM/CAE and utilizing your training knowledge to get you expertise in the design software's (Internship Certificate is provided)	01st December, 2020	30th December, 2020
13.	Focusing on utilization of software skills in academic project based on CAD/CAM/CAE under design engineer	01st July, 2020	Till the final submission of Project
14.	Placement Platforms (Based on your score card, companies of all sector are provided for applying)(After getting expertise in the CAD/CAM/CAE by utilizing your skill in project, Core sector companies are provided for applying) (so kindly focus on skill utilization of CAD/CAM/CAE)	01st October, 2020	31st December, 2021

- The fees structure is given above, student has to pay total fees is Rs. 12500/- (including registration amount of rs. 500/-) as per DTPP program date and time schedule. If the amount is collected by the Party of second part shall be submitted to Party of first part before the last date mentioned in the above table. Registration fees shall be submitted to party of first part after the last date of registration in between 01st April to 04th April to the IVTR's Account given below.

Central bank of India, Gorakshan Road, Akola - 444001

Name of Account Holder:- INDO VIDARBHA TOOL ROOM

Account No.:- 3709437434 IFSC Code:- CBIN0282333

Note down while crediting fees to IVTR's account, Please write down on slip and say to cashier that "DTPP Fees payment by BNCOEP".

- The Program fees is Rs. 12500/- (including registration amount of rs. 500/-) and party of first part will be going to give share of party of second part which is Rs. 1500/- which will be given to them from party of first part(if registered students are 25 or more) by legal way (no cash handover) at the time of distributing registered certificates that is during the period of between 15th July to 01st August.
- If party of second part require to train some students at free of cost instead of taking their share then party of first part will be going to train any 3 students at free of cost.
- If the fees (Rs. 12500/- (including registration amount of rs. 500/-)) is collected by the party of second part then party of second part has to submit whole amount (Rs. 12500/- (including registration amount of rs. 500/-)) to the party of first part's account and party of second part will not going to deduct any of his share from the whole fees (Rs. 12500/- (including registration amount of rs. 500/-)).
- If institute or no. of students required any short term and individual training of a particular design software, party of first part will conduct 30 days Design Training Program for each Mechanical Design software like CATIA, ANSYS, MASTERCAM, CREO, AUTOCAD, SOLIDWORKS with practical session, in association with Party of second part. The fees structure of each software as follows:

Sr. No.	Name of software	Fees (Rs.)	Registration Fees	Total Fees
1	CATIA	3000/-	200/-	3200/-
2	ANSYS	3400/-	200/-	3600/-
3	MASTERCAM	2500/-	200/-	2700/-
4	CREO	3200/-	200/-	3400/-
5	AUTOCAD	3000/-	200/-	3200/-
6	SOLIDWORKS	3200/-	200/-	3400/-

- In this short term and individual training, no share will be given to the party of second part (no share of Party of second part).
- In case of abrupt discontinuation of the program by the students or due to of any reason, no refund shall be provided.
- Party of second part will provide CAD/CAM lab with projector (if possible) and black/white board to party of first part.
- To promote the training program and the host college, party of first part will update the event on its official website, upload promotional post on Facebook, Twitter, Instagram etc.

IVTR DESIGN TRAINING CENTRE AKOLA

HOD of Design Training Centre
IVTR, DTC, Design Centre
Akola, Maharashtra - 444001
Authorized stamp and Sign. of
the party of the first part

H.O.D. (Mech. Dept.)
P.R. Pote (Patil) College of Engg. & Management
Authorized stamp and Sign. of
the party of the second part

Date:- 12th March, 2019
Place:- Amravati.

553 / 569

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.

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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.

555 /571

Either Party may by giving one-month written notice to the other party terminate t agreement.

MR. MANGESH D. BHARTI
(DIRECTOR)
MDB Electrosoft
AMRAVATI-444601
Sign & Stamp :

MDB ELECTROSOFT * AMRAVATI * E M No. 0700721 00050

Date: 13th Jun 2018

Dr. R. D. GHONGADE
(HOD, ExTC)
PRPCOEM
AMRAVATI-444607
Sign & Stamp:

H.O.D. (EXTC Dept.)
...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, Amr
Signature with Date

13/6/20

560 | 576

Students participated in Webakruti

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40	Arjun Pratapsingh Chauhan	

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

5570 | 573

Webakruti
We are the Change
Plot No. 254, Dongre Layout, Abhyankar Nagar, Nagpur (MH) India - 440010
+91-9021345794, +91-7387863841, +91-7387990061

Ref. No: WEK/2018-19/MOU/13

Date : 13/06/2018

MEMORANDUM OF UNDERSTANDING

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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.

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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

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Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amravati
Signature with Date

13.06.2018

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Designation: Asst. Prof.
Organization: P. R. Pote COEM, Amrav
Signature with Date 13/06/2018

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