



"Shri Gajanan Maharaj Prasanna"

**P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions,
College of Engineering & Management, Amravati**

Institute Code : 1107

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



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

Report of Title: **Training Program on circuit simulation and PCB design**

1	Title of Workshop	Training Program on circuit simulation and PCB design
2	Date of Workshop	17th to 29th August 2018
3	Venue of Workshop	Electrical Department
4	Resource Person	Prof.A.A.Ghute, Asst.Pofessor, PRPCE &M, Amravati Prof.S.A. Jalit, Asst.Pofessor, PRPCE &M, Amravati Prof.A.P.Pundkar, Asst.Pofessor, PRPCE &M, Amravati
5	Target of Students	Electrical Engineering UG
6	Number of Students/Participants	48
7	Schedule of Program	17th to 29th August 2018
8	Topics Covered	Day-1- Introduction of Proteus ISIS Day-2- Introduction of and PCB design by ARES and its application to different electrical & electronics circuit.



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		<p>Day-3- Hands on training of practical simulation of electrical circuit through lab practice in Proteus ISIS.</p> <p>Day-4-Introduction of and PCB design by ARES and its application to different electrical & electronics circuit.</p> <p>Day-5 - Students will be able to developed mini projects using Proteus software</p> <p>Day-6- Students will be able to design any type of circuit & simulation using Proteus ISIS and PCB design by ARES</p> <p>Day-7- PCB manual etching using etching solution</p> <p>Day-8- Drilling and component mounting on PCB.</p> <p>Day-9 Study of soldering methods and hands on practice.</p> <p>Day-10- Testing of electronics circuit and understanding fault tracing procedure.</p>
9	Mode Assessment	Question and answering
10	Outcome of workshop/FDP/Seminar /webinar	<ol style="list-style-type: none"> 1. Perform design and simulate basic electronics circuit in software. 2. Testing of circuit in software. 3. To design PCB in ARES software.



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		<p>4. Etching of PCB, Drilling, Mounting of components and soldering the components on designed PCB.</p> <p>5. Testing of fabricated electronics circuit and fault finding</p>
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Date	Day	Session	Time	Instructor	Contents
17/08/2018	Friday	I	2:30pm-5.00pm	Prof A.A.Ghute,	Introduction of Proteus ISIS
18/08/2018	Saturday	I	2:30pm-5.00pm	Prof A.A.Ghute	Introduction of and PCB design by ARJ and its application to different electrical electronics circuit.
20/08/2018	Monday	I	2:30pm-5.00pm	Prof A.A.Ghute, Prof. S.A. Jalit,	Hands on training of practical simulation of electrical circuit through lab practice in Proteus ISIS.
21/08/2018	Tuesday	I	2:30pm-5.00pm	Prof. S.A. Jalit, Prof.A.P. Pundkar,	Introduction of and PCB design by ARJ and its application to different electrical electronics circuit.
22/08/2018	Wednesday	I	2:30pm-5.00pm	Prof A.A.Ghute, Prof.A.P. Pundkar,	development of mini projects using Proteus software
23/08/2018	Thursday	I	2:30pm-5.00pm	Prof A.A.Ghute,	Designing of any type of circuit & simulation using Proteus ISIS and PCB design by ARES
24/08/2018	Friday	I	2:30pm-5.00pm	Prof A.A.Ghute, Prof.A.P. Pundkar,	PCB manual etching using etching solution
25/08/2018	Saturday	I	2:30pm-5.00pm	Prof A.A.Ghute,	Drilling and component mounting on PCB.



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				PRPCE &M, Amravati	
27/08/2018	Monday	I	2:30pm-5.00pm	Prof. S.A. Jalit, Prof. A.P. Pundkar,	Study of soldering methods and hands on practice.
28/08/2018	Tuesday	I	2:30pm-5.00pm	Prof A.A.Ghute, Prof. S.A. Jalit,	Testing of electronics circuit.
29/08/2018	Wednesday	I	2:30pm-5.00pm	Prof. A.P. Pundkar	understanding fault tracing procedure
30/08/2018	Thursday	I	2:30pm-5.00pm	Prof A.A.Ghute,	Concluding Remarks and Quiz and Feedback



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Department of Electrical Engineering

Academic Year 2018-19

Report on

Training Program on Exploring Optimization using MATLAB



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Training Program
On
Exploring Optimization using MATLAB

MATLAB®
The Language of Technical Computing



Coordinator
Dr. A.S. Telang,
Prof. Y.D. Shahakar

Date:
16th July to 28th July 2018

Department of Electrical Engineering



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Name of course: Training Program on Exploring Optimization using MATLAB

Nature of course: Certificate Program

Course Duration: 30 Hours

Career opportunity:

1. Design Engineer
2. In R & D Sector

Objectives of the Course:

The main objective of this workshop was to make the engineering students aware about the basic structure and process of solving optimization problems effectively and about the use of MATLAB based interactive optimization tools to define and solve optimization problems. These days, Optimization has become an important tool and has many applications such as engineering design, business planning, computer science, data mining, machine learning, artificial intelligence and industries. Interestingly, to take full advantage of the power of optimization in practice, there is no choice but to use a computer. Optimization techniques can be implemented in various common programming languages as R, Python and MATLAB.

Course Outcomes:

CO1: Able to implement loops, branching, control instruction and functions in MATLAB programming environment.

CO2: Able to program curve fitting, numerical differentiation and integration, solution of linear equations in MATLAB and solve electrical engineering problems.

CO3: Able to understand implementation of ODE using ode 45 and execute Solutions of nonlinear equations and DFT in MATLAB.

CO4: Able to simulate MATLAB Simulink examples

Outcome of workshop: By the end of this course, the student will be able to

1. Understand the basics of Matlab
2. Break a complex task up into smaller, simpler tasks
3. Case Study (Any two Modules)
4. Tabulate results and Analyse

Duration of course : 16th July to 28th July 2018

Resource person : Dr. A.S. Telang, Astd. Prof. EE, Dept. PRPCEM, Amravati
Prof. Y. D. Shahakar, Astd. Prof. EE, Dept. PRPCEM, Amt.



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Target participants : Electrical Engineering Students.

Course Structure and Syllabus

The workshop is organized in two modules with morning and evening sessions–

Module I - Session on introduction to Optimization tool of MATLAB followed by Get started with MATLAB

Module II- Training on variety of engineering problems related to optimization

Course Contents :

Sr.No	Duration	Content
1	2 Hrs	Basics of MATLAB and MATLAB Compiler
2	2 Hrs	Working with Matlab data types
3	5 Hrs	Data import and export Using the graphical features
4	5 Hrs	Programming with simple examples
5	5 Hrs	Discussion of Toolboxes with Applications
6	2 Hrs	Signal Processing Image Acquisition Toolbox
7	2 Hrs	Image Processing The Matlab user interface
8	2 Hrs	Neural Network Fuzzy Logic Toolbox
9	5 Hrs	Simulink and Hardware Interfacing (Using Kits: Lego, Raspberry Pi, Mind storms)



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Course Mapping with POs:

Workshop							Academic Year: 2018-19					
Course/Subject: Training Program on Exploring Optimization using MATLAB												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	3	-	2	-	-	-	-	-	-	-
CO2	-	3	2	-	-	-	-	-	-	-	-	-
CO3	-	-	-	2	3	-	-	-	-	-	-	-
CO4	-	-	3	-	2	-	-	-	-	-	-	-



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Date:12/07/2018

Office Order

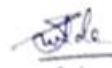
The undersigned is pleased to appoint the following staff members of Electrical Engineering Department as **Coordinator and Co-coordinator** for Add-on course on **'Training Program on Interactive Optimization Education Using MATLAB'** from 16th July to 28th July 2018. You are therefore expected to take responsibility of coordinating the related activities & cooperate.

Sr No.	Faculty	Responsibility
01	Dr. A. S. Telang	Coordinator
02	Prof. Y. D. Shahakar	Co-coordinator
03	Prof. P.R.Rane	Co-coordinator


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Prof. D. A. Shahakar




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Department of Electrical Engineering

Academic Year 2018-19

NOTICE

Date:12/07/2018

All the students of Department of Electrical Engineering are hereby informed that, our department is going to organize Training Program on **“Training Program on Interactive Optimization Education Using MATLAB”** from 16th July to 28th July 2018. Interested students can register for the workshop.

Prof.D.A.Shahakar

HOD(EE)



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Snapshots of Workshop



Inauguration of program



Practical Session of MATLAB

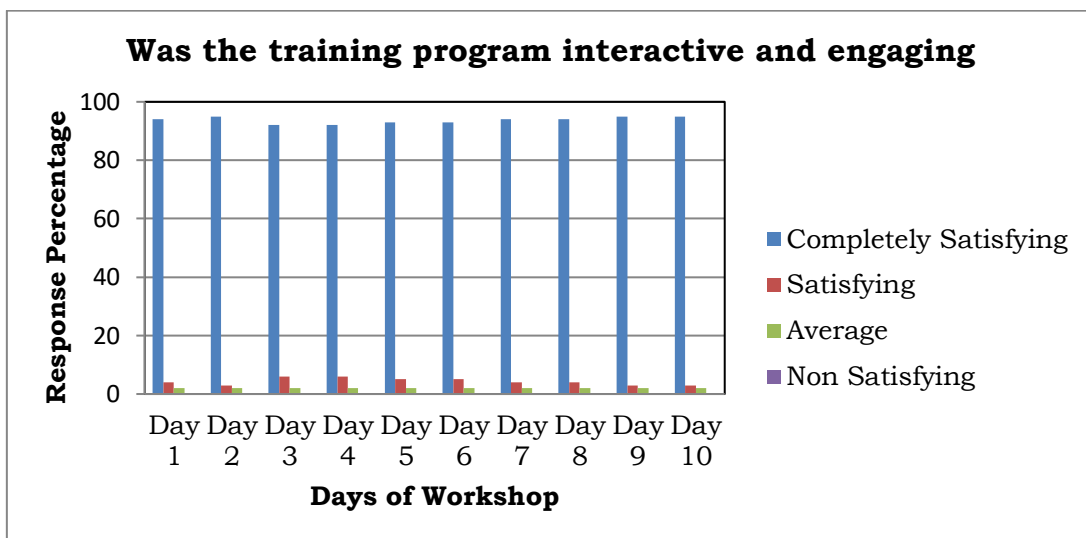
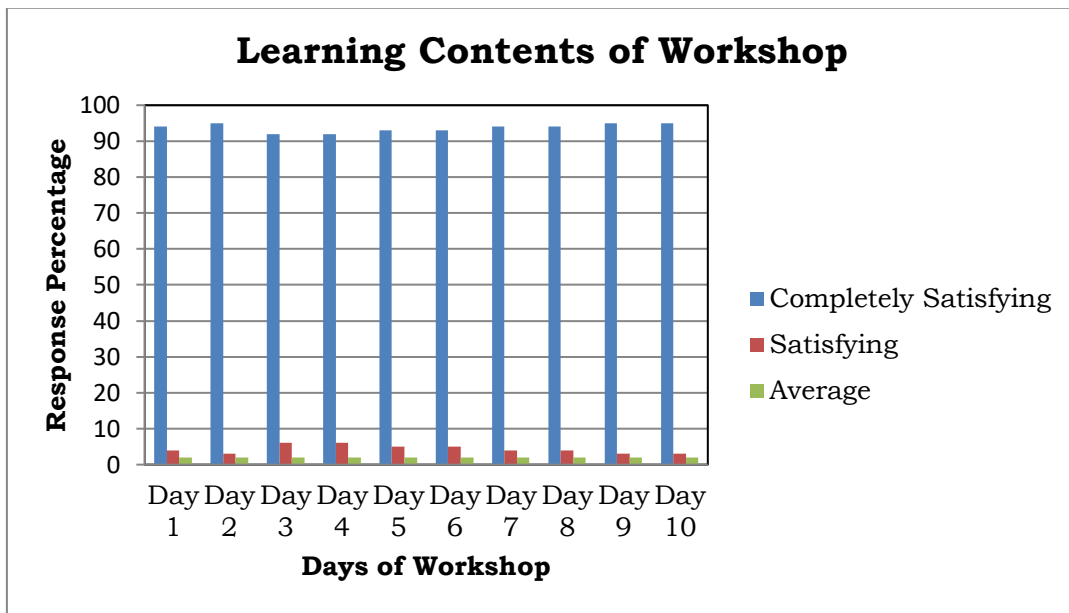


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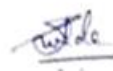
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Feedback of workshop



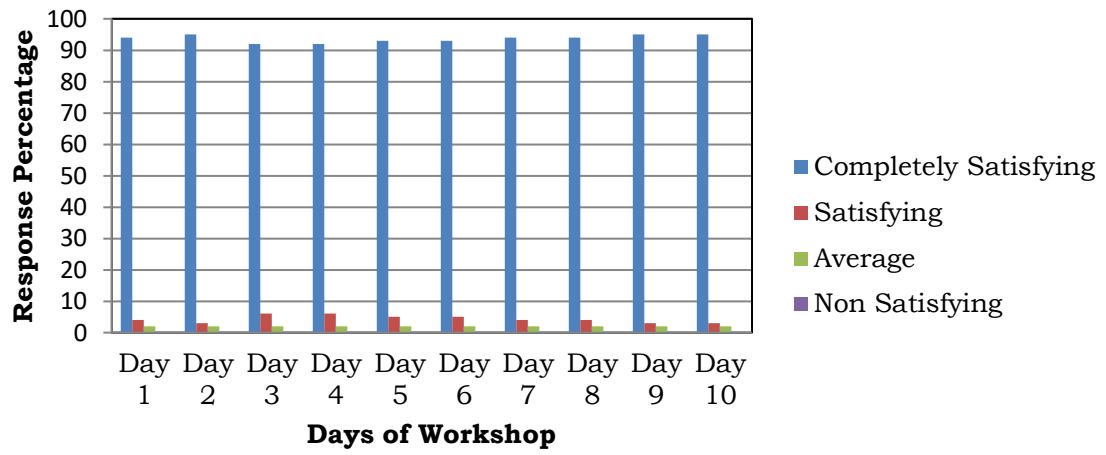
Feedback of Workshop




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How would you rate the quality of this training session



Feedback of Workshop



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Quiz

1. If the coefficient matrix of a linear system has rank 4, and the augmented matrix has rank 5, then:

A. The system has infinitely many solutions

B. The system is inconsistent

C. There are fewer variables than equations

D. The system is homogeneous

2. Which of the following is not a pre-defined variable in Matlab?

A. pi

B. inf

C. i

D. gravity

3. To print a newline in a fprintf statement, you must use the following escape character:

A. t

B. nl

C. nxt

D. n

4. Let x and y be solutions to a system of n homogeneous linear equations. If $z = ax + by$

A. z is a solution to the system for all a and b

B. z is a solution only if $a = 0$ and $b = 0$

C. The solution has $n - 2$ parameters

D. There are at most 2 leading variables

5. What are the characters in Matlab are represented in their value in memory?

A. decimal

B. ASCII

C. hex

D. string

6. Which one of the following lists contains only legal MATLAB variable names?

A. year-2012, time

B. myTime, 1stVar



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C. MyScore1, student1_ID

D. 2nd_Var, my_currency

7. This Matlab command clears all data and variables stored in memory:

A. clc

B. clear

C. delete

D. deallocate

8. What does MatLab consist of?

A. MatLab Language

B. MatLab working environment

C. Handle Graphics

D. All of the above

9. What are the things for which MATLAB can be used

A. Performing very simple calculations

B. Plotting mathematical relationships in two dimensional and three dimensional

C. For operations of matrix

D. All of these

10. Which of the following is used to see if two elements are equal in MATLAB?

A. !=

B. ==

C. isequal

D. =

Quiz Result

Sr. No.	Name	Marks[10]	Sr. No.	Name	Marks[10]
1	Rohini K. Deshmukh	8	44	Akansha A. Shrisath	7
2	Priyanka M. Parale	7	45	Sonali D. Kalaskar	7
3	Vaibhav H. Wakle	9	46	Rahul V. Manekar	8
4	Akash V. Kaldate	8	47	Rushikesh M. Gujarkar	9



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5	Akshay M. Chaudhari	7	48	Akshay R. Pachpoh	8
6	Amruta S. Chaudhary	8	49	Aman A. Deole	7
7	Amruta G. Bhalerao	9	50	Kalyani P. Kawane	7
8	Radhika N. Mendhe	7	51	Jigisha P. Hirpurkar	8
9	Pranjali P. Bhise	8	52	Arpit R. Wardhe	7
10	Sakshi U. Hande	8	53	Prathamesh V. Aherkar	9
11	Onam Y. Wghmare	8	54	Vaibhav Dhakare	3
12	Payal S. Walde	9	55	Shatakshi R. Guhe	8
13	Sandesh P. Chaudhari	7	56	Dhanashree Pohokar	7
14	Jagdish S. Shinde	4	57	Shrutika V. Dabhale	9
15	Swapnil B. Ramteke	8	58	Pooja S. Kamble	7
16	Ashwin Y. Gahane	7	59	Mayuri D. Kapse	8
17	Gaurav S. Zopate	9	60	Sapna L. Kale	7
18	Tushar K. Kuyate	7	61	Samiksha R. Gathe	9
19	Madhvi K. Ingle	7	62	Bhagyashri S. Kale	9
20	Neha L. Neware	8	63	Mandar Pathak	8
21	Monika V. Ghatol	8	64	Ankit Prakash Deshmukh	8
22	Asha P. Bodkhe	3	65	Prasad Shankar Kharat	7
23	Vasanti A. Opase	9	66	Prasad Raju Kathalkar	8
24	Snehal M. Wanare	8	67	Ujwal Vijayrao Talkit	4
25	Pallavi R. Rajgure	7	68	Anant Dinesh Kurywanshi	7
26	MD. Umer Mohammad Iqbal	6	69	Vrusha Nandu Ahirrao	7
27	Harsh N. Dhawale	8	70	Harshal Ramesh Ingalkar	8
28	Yash S. Malthane	7	71	Manish Santosh Pawade	7
29	Sanghadip R. Wasnik	7	72	Abhishek Khedkar	9
30	Charudatta K. Wakudkar		73	Revati Niranjandrao Ganorkar	8
31	Kamesh M. Thakre	6	74	Dikshant Anil kawade	7
32	Nikhil S. Dharme	8	75	Rhushikesh Madhukar Sabal	8



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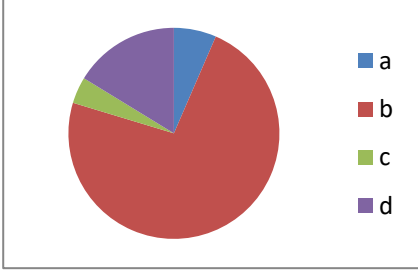
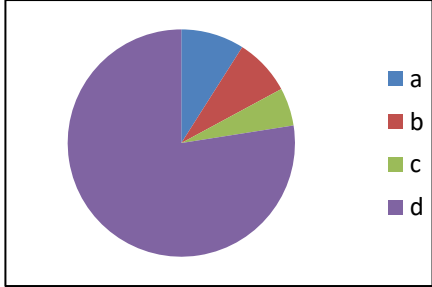
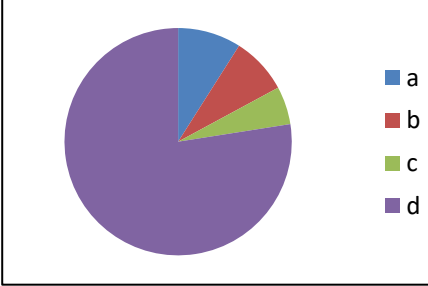
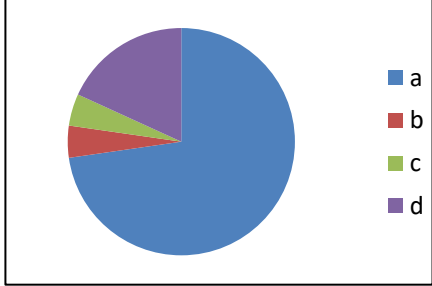
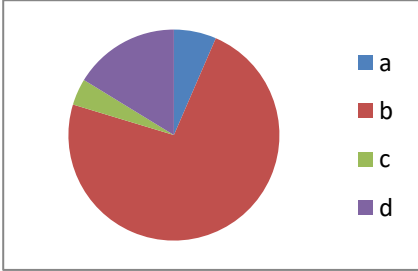
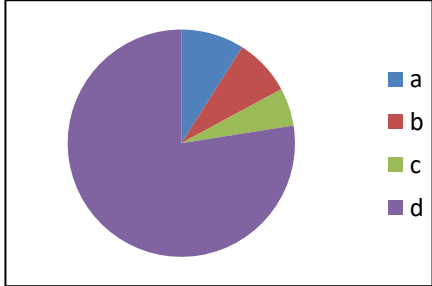
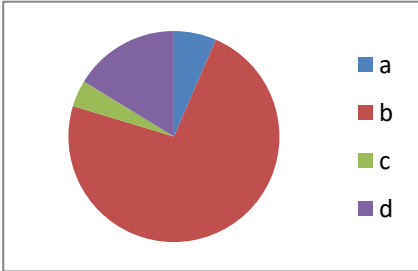
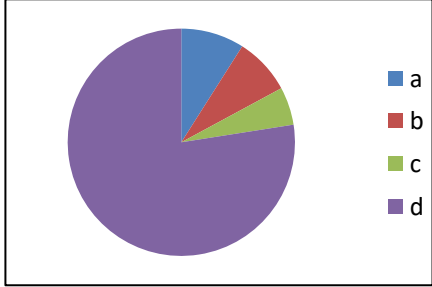
33	Nishikant J. Kale	9	76	Sonam R Chikhalkar	7
34	Ameya N. Adsule	8	77	Dushant girde	8
35	Vicky P. Gaikwad	7	78	Anurag K. Bhoyar	7
36	Prashant S. Umalkar	8	79	Shabdali Mule	7
37	Shubham S. Wankhade	7	80	Neha Suresh Bendarkat	9
38	Abhay S. Gedam	8	81	Makarand Vinod Bhamburkar	8
39	Anand S. Jadhav	7	82	Shubham P. Tandiye	9
40	Omkareshwari B. Khupse	7	83	Rushikesh Ramkrushna Bhakte	8
41	Pooja K. Kamble	7	84	Rasika Sunil Jagtap	8
42	Rupesh V. Aagde	9	85	Pranjal Dilip Dubey	7
43	Himanshu S. Umale	8			



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Quiz Responses

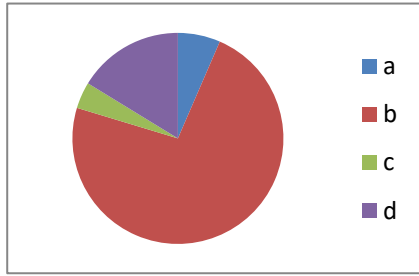
<p>1. If the coefficient matrix of a linear system has rank 4, and the augmented matrix has rank 5, then:</p> 	<p>2. Which of the following is not a pre-defined variable in Matlab?</p> 
<p>3. To print a newline in a fprintf statement, you must use the following escape character:</p> 	<p>4. Let x and y be solutions to a system of n homogeneous linear equations. If $z = ax + by$</p> 
<p>5. What are the characters in Matlab are represented in their value in memory?</p> 	<p>6. Which one of the following lists contains only legal MATLAB variable names?</p> 
<p>7. This Matlab command clears all data and variables stored in memory:</p> 	<p>8. What does MatLab consist of?</p> 



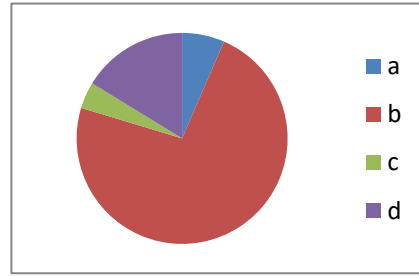
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9. What are the things for which MATLAB can be used



10. Which of the following is used to see if two elements are equal in MATLAB?



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Certificate

This is to certify that Mr. Vaibhav S. Hiwase of Electrical Engineering Department, has completed "Training Program on Exploring Optimization using MATLAB" organized by Electrical Engineering Department of P. R. Pote (Patil) College of Engineering & Management, Amravati, during 16 July - 28 July 2018.

HOD



Principal



P. R. Pote Patil
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