



## Criterion 2 - Teaching-learning and Evaluation

### Evaluation Process and Reforms

In-Semester evaluation for UG and PG Engineering (DBATU, Lonere)					
	Continuous mode(CA)	Mid Semester Exam	End-Semester Exam	Components of continuous mode	Grievance Redressal
Theory	20%	20%	60%	Quizzes, class tests (open or closed book but minimum 2 in the semester if only mode of CA), home assignments, group assignments, viva-voce discussions	<ul style="list-style-type: none"> <li>Show assessed answer books to students and redress their grievances for internal assessment</li> <li>Online redressal system of DBATU for student complaints in ESE</li> </ul>
Practical's	60%	.	40%	Attendance, completion of experiments viva-voce, journal submission, assignments, project, experiments, announced tests	.
In-Semester evaluation for MBA (Shivaji University Kolhapur)					
	Concurrent Institutional Evaluation	Objective type exam	End-Semester Exam	Components of Concurrent Institutional Evaluation	Grievance Redressal
Theory	20 marks	20 marks	60 marks Open book test for specialized subjects.	<ul style="list-style-type: none"> <li>Assignment for 10 marks</li> <li>Mid end examination (Internal) 10 marks</li> </ul>	<ul style="list-style-type: none"> <li>Show assessed answer books to students and redress their grievances for internal assessment</li> <li>Online redressal system of SUK for student complaints in ESE</li> </ul>

**Criterion Coordinator**  
**Mrs. Prof. S. R. Patil**

**Dean IQAC**  
**Mr. Prof. R. S. Patil**  
**Internal Quality Assurance Cell**  
**Ashokrao Mane Group of Institutions**  
**Vathar Tarf Vadgaon - 416112 (M.S.)**



Sri Balasaheb Mane Shiksha Prasang Mandali  
**ASHOKRAO MANE GROUP OF INSTITUTIONS**

Approved by A.I.C.T.E., New Delhi  
D.T.E., Mumbai, Govt. of Maharashtra  
Permanent Affiliates to UBAU, Lonere, Shivaji University, Kolhapur



NBA Accredited Programs \*  
\* Mechanical, Electrical, Civil



NAAC Accredited with "A" Grade  
With GPA of 3.18



## Continuous Assessment-1

### Question Papers



ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR  
FACULTY OF ENGINEERING  
DEPARTMENT OF ELECTRICAL ENGINEERING

**CIRCULAR/NOTICE**

Doc No: AMGOI-FRM-03

Rev No:00

Rev.Dt.22/9/2022

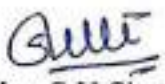
Date-22/09/2022

All the staff are hereby inform that, departmental CA-I is scheduled from 26/09/2022 to 27/9/2022 of 20 marks.I hereby request you to submit question paper of respective subject(hardcopy)along with model answer paper in proper format given by DBATU before 23/09/2022 by 3.00pm. Each question paper carries 20 marks.

**Time-table**

Date	Time	Subjects
		T.Y.
26/09/2022	10.45 am to 11.45 am	Power system analysis
	2.45 pm to 3.45 pm	Microprocessor and Microcontroller
	10.45 am to 11.45 am	Power Electronics
27/09/2022	2.45 pm to 3.45 pm	HVDC
	10.45 am to 11.45 am	Embedded System

  
Prof.D.S.Patil  
Exam Coordinator

  
Prof. Mrs. S.H.Shete  
(H.O.D.)



ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR  
FACULTY OF ENGINEERING  
DEPARTMENT OF ELECTRICAL ENGINEERING

**CIRCULAR/NOTICE**

Doc No: AMGOI-FRM-03

Rev No:01


Rev.Dt.27/9/2022

Date-27/09/2022

All the students are hereby informed that, departmental CA-I is scheduled from 30/09/2022 to 1/10/2022 of 20 marks. Exam schedule is as given below.

**Time-table**

Date	Time	Subjects
		S.Y.
30/09/2022	10 am to 11 am	Engineering Mathematics-III
	12 pm to 1 pm	Electrical Machines-I
1/10/2022	10 am to 11 am	Electrical and Electronics Measurement
	12 pm to 1 pm	Engineering Material Science

  
Prof.D.S.Patil

(Test Co-Ordinator)

  
Prof. Mrs.S.H.Shete

(H.O.D.)



ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR  
FACULTY OF ENGINEERING  
DEPARTMENT OF ELECTRICAL ENGINEERING

**CIRCULAR/NOTICE**

Doc No: AMGOI-FRM-03

Rev No:00


Rev.Dt.07/10/2022

Date-07/10/2022

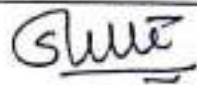
All the staff are hereby inform that, departmental CA-I is scheduled from 10/10/2022 to 11/10/2022 of 20 marks. I hereby request you submit question paper of respective subject (hardcopy) along with model answer paper in proper format given by DBATU before 07/10/2022 by 2.00 pm each question paper carries 20 marks

**Time-table**

Date	Time	Subjects
		B.Tech
10/10/2022	10 am to 11 am	Power System Operation & Control
	12 pm to 1pm	High Voltage Engineering
	2 pm to 3 pm	Electrical Drives
11/10/2022	10 am to 11 am	Electrical Traction and Utilization
	12 pm to 1pm	Energy Audit and Conservation

  
Prof.D.S.Patil

Exam Coordinator

  
Prof. Mrs. S.H.Shete

(H.O.D.)

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

CAI Examination – Oct 2022

Course: B. Tech in Electrical Engineering

Sem: VII

Subject Name: High Voltage Engineering

Subject Code: BTEEC702

Max Marks: 20

Date:- 10/10/2022

Duration:- 1 Hr.

Instructions to the Students:

1. All questions are compulsory
2. Write all the answers with neat labeled diagram.
3. Figures to the right indicates full marks

	(Level/CO)	Marks
<b>Q.1 Answer the following questions</b>		<b>5</b>
1 Beyond breakdown voltage, dielectrics become insulating. a) True b) False	CO1	
2 In Finite Element Method (FEM), node convergence is a measure of the number of _____ required in a model to ensure that the results of an analysis are not affected by changing the size of the _____ a) elements, mesh                      b) nodes, mesh c) nodes, element                      d) degrees of freedom, element	CO1	
3 Suppose the potential function is a step function. The equation that gets satisfied is _____ a) Laplace equation                      b) Poisson equation c) Maxwell equation                      d) Ampere equation	CO1	
4 In Finite Element Method (FEM), for discretization purpose in general, which 2D element is an undesired one? a) An equilateral triangle of side 3 units    b) A quadrilateral c) A rhombus of side 10 units    d) A rectangle of dimensions	CO1	
5 Poisson's and Laplace equations can be easily derived from _____ a) Gauss law    b) Coulomb's law    c) Ampere's law    d) Faraday's law	CO1	
<b>Q.2 Solve the following.</b>		<b>15</b>
(A) Explain finite difference method.	CO1	
(B) Explain finite Element method.	CO1	
(C) Derive an expression for Poisson's and Laplace equation.	CO1	

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

CA-I Semester Examination – Oct 2022

Course: B. Tech in Electrical Engineering

Sem: VII

Subject Name: Energy Audit and Conservation Div: A&B Subject Code: BTEEE705

Max Marks:20

Date:11-10-2022

Duration:- 1 Hr.

Instructions to the Students:

1. All questions are compulsory.
2. Assume suitable data wherever necessary.
3. Figure to the right indicate full marks.

	(Level/CO)	Marks
<b>Q.1 Answer the following questions by selecting the correct alternative</b>		<b>5</b>
1) The electrical power unit Giga Watt (GW) may be expressed as A) 1,000,000,000 MW B) 1,000MW C) 1,000KW D)10,000W	BTEEE705.1	1
2) Which of the following is not a unit of energy? A) Joule B) Calorie C) Watt D) BTU	BTEEE705.1	1
3) Which is the major energy source to meet the Indian energy demand? A) Coal B) Oil C) Natural Gas D) Lignite	BTEEE705.1	1
4) Which is the sector with the highest energy consumption in India? A) Industry B) Domestic C) Agriculture D)Commercial	BTEEE705.1	1
5) Which is the state with the highest energy consumption in India? A) Maharashtra B) Tamil Nadu C) Andhra Pradesh D) Gujarat	BTEEE705.1	1
<b>Q.2 Solve Any Two of the following.</b>		<b>10</b>
(A) Give a short description about primary and secondary energy with examples.	BTEEE705.1	5
(B) Distinguish between renewable and nonrenewable resources.	BTEEE705.1	5
(C) Explain solar power generation in detail.	BTEEE705.1	5
<b>Q.3 Solve Any one of the following.</b>		<b>5</b>
(A) Explain the working of a hydroelectric power plant with schematic diagram	BTEEE705.1	5
(B) Explain the principle of working of a thermal power plant.	BTEEE705.1	5



Sri Balasaheb Mane Shiksha Prasarak Mandal's  
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NBA Accredited Programs \*  
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NAAC Accredited with "K" Grade  
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## Mid-Semester

## Question Papers





ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR.  
Faculty of Engineering

## CIRCULAR/NOTICE

Doc. No.: AMGOI -FRM-03

Rev. No.: 00

Rev. Dt: 04/07/2013

Date: 21/11/2022

### Notice

All the students of SY, TY & B. Tech CSE are hereby informed that Mid Semester Exam (MSE) is scheduled On 24<sup>th</sup> & 25<sup>th</sup> November 2022 of 20 marks at our institute .

#### Mid Semester Exam (MSE) Time table (November 2022)

##### Second Year (SY)

Sr. No	Subjects	Date	Time	Roll No	Room/Lab
1	Engg. Maths - III	24/11/2022	10:15 AM to 11.15 AM	1-35/36-70	FR - 6 / FR - 11
2	Discrete Mathematics		12:30 PM to 1:30 PM	1-35/36-70	FR - 6 / FR - 11
3	Data Structures	25/11/2022	10:15 AM to 11.15 AM	1-35/36-70	FR - 6 / FR - 11
4	Comp. Architecture & Organization		12:30 PM to 1:30 PM	1-35/36-70	FR - 6 / FR - 11
5	OOP with C ++		2:30 PM to 3:30 PM	1-35/36-70	FR - 6 / FR - 11

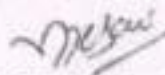
##### Third Year (TY)

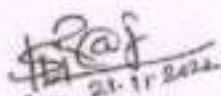
Sr. No	Subjects	Date	Time	Roll No	Room/Lab
1	Database Systems	24/11/2022	10:15 AM to 11.15 AM	1-35/36-70/70 Onwards	FR - 6 / FR - 11 /ACL
2	Theory of Computation		12:30 PM to 1:30 PM	1-35/36-70/70 Onwards	FR - 6 / FR - 11 /ACL
3	Software Engineering	25/11/2022	10:15 AM to 11.15 AM	1-35/36-70/70 Onwards	FR - 6 / FR - 11 /ACL
4	Human computer Interaction		12:30 PM to 1:30 PM	1-35/36-70/70 Onwards	FR - 6 / FR - 11 /ACL
5	Business Communication		2:30 PM to 3:30 PM	1-35/36-70/70 Onwards	FR - 6 / FR - 11 /ACL

##### Final Year (B. Tech)

Sr. No	Subjects	Date	Time	Roll No	Room/Lab
1	Software Engineering	24/11/2022	10:15 AM to 11.15 AM	1-35/36-70	PL-I/ PL-II
2	Big Data Analytics		12:30 PM to 1:30 PM	1-35/36-70	PL-I/ PL-II
3	Cloud Computing	25/11/2022	10:15 AM to 11.15 AM	1-35/36-70	PL-I/ PL-II
4	Blockchain Technology		12:30 PM to 1:30 PM	1-35/36-70	PL-I/ PL-II

IMP NOTE: 1) Question paper should consist of 5 questions of 5 marks. Attempt any 4.  
2) Attendance is compulsory for all students.

  
Prof. V. D. Desai  
Exam Coordinator

  
21-11-2022  
Prof. S. S. Redekar  
HOD (CSE)  
HOD



**CIRCULAR/NOTICE**

Doc. No.: AMGOI-FRM-03  
Rev. No.: 00  
Rev. Dt: 04/07/2013

**Allotment of Supervision Duties**


Date:-22/11/2022

Date	Time	SSR	PSP	SRP	VDD	SPP	SJV	ABD	RSP	NKP
24/11/22	10:15 AM to 11.15 AM	PL-I	PL-II	FR-06	FR-11	FR-06		FR-11	ACL	
	12:30 PM to 1:30 PM			PL-I	PL-II	FR-06	FR-11	FR-06	FR-11	ACL
25/11/22	10:15 AM to 11.15 AM	PL-I	PL-II			FR-06	FR-11	FR-06	FR-11	ACL
	12:30 PM to 1:30 PM					FR-06	FR-11	FR-06	FR-11	ACL
	2:30 PM to 3:30 PM			PL-I	PL-II	FR-06	FR-11	FR-06	FR-11	ACL
Total Duties		2	2	3	3	4	4	5	5	4
Staff Signature		<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

NOTE: All the Faculties should report before 10 Min of the schedule.

*[Signature]*  
Prof.V.D.Desai  
Exam In-Charge

*[Signature]*  
22/11/22  
Prof.S.S.Redekar  
HOD, CSE  
HOD  
Computer Science & Engineering,  
AMGOI, Faculty of Engineering  
Vathar Tari Vadgaon, Dist. Kolhapur

	<b>ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR</b> <b>FACULTY OF ENGINEERING</b> <b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
	<b>CIRCULAR/NOTICE</b>	Doc No: AMGOI-FRM-03
		Rev No:01
		Rev.Dt.08/5/2023

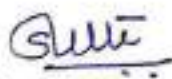
Date-8/5/2023

All the staff are hereby inform that, departmental MSE is scheduled from 11/5/2023 and 12/5/2023 of 20 marks. I hereby request you to submit question paper of respective subject (**hardcopy**) along with model answer paper in proper format given by DBATU before 9/5/2023 by 3.00 pm. Each question paper carries 20 marks.

#### Time-Table

Date	Time	Subjects
		SY
11/5/2023	10.15 am to 11.15 am	Network Theory
	2.30 pm to 3.30 pm	Power System
12/05/2023	10.15 am to 11.15 am	Electrical Machine-II
	12.30 pm to 1.30pm	Analog and Digital Electronics
	2.45 pm to 3.45 pm	Electronic Devices and Circuits

  
 Prof.D.S.Patil  
 Exam Coordinator

  
 Prof. Mrs. S.H.Shele  
 (H.O.D.)  
**HOD**  
**Electrical Engineering**  
 AMGOI, Faculty of Engineering  
 Vathar Torf Vadgaon,  
 Tal. Hatkanangala, Dist. P.



**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**MID SEMESTER EXAM-May-2023**

Course: B.Tech in Electrical engg. Sem: IV

Subject Name: Power Systems Subject Code: BTEEC402

Max Marks: 20

Date:- 11/05/2023

Duration:- 1 Hr.

**Instructions to the Students:**

1. Q.1 is compulsory.
2. Write all the answers with neat labeled diagram.
3. Figures to the right indicates full marks

		(Level/CO)	Marks
<b>Q. 1</b>	<b>Attempt following Questions (4 Marks)</b>		<b>4</b>
<b>I)</b>	If the supply frequency increases, then skin effect is..... ? (a) increases (b) decreases (c) remains same (d) All of the above	<b>BTEEC402.2</b>	
<b>II)</b>	In nuclear reactor . . . . . controls the neutrons before they bombarded the fuel rod. (a) Uranium (b) cadmium (c) Graphite (d) Sodium metal	<b>BTEEC402.1</b>	
<b>III)</b>	If the spacing between the conductors is increased, the inductance of the line..... (a) increases (b) decreases (c) remains same (d) none of the above	<b>BTEEC402.2</b>	
<b>IV)</b>	The Ferranti Effect is due to (a) Line inductance (b) Magnetic Field (c) Resistor (d) air capacitance	<b>BTEEC402.2</b>	
	<b>Attempt anyone from Q2 to Q3</b>		
<b>Q.2</b>	Explain the Construction, and working of the nuclear power plant with a suitable diagram. Also Give merits, de-merits and criteria for selecting the nuclear power plant site.	<b>BTEEC402.1</b>	<b>6</b>
<b>Q.3</b>	Derive an expression for the inductance per phase for a 3-phase overhead transmission line when (i) conductors are symmetrically placed (ii) conductors are unsymmetrically placed but the line is completely transposed	<b>BTEEC402.2</b>	<b>6</b>
	<b>Attempt any Two from Q4 to Q6</b>		
<b>Q.4</b>	Find the inductance per km of a 3-phase 100km transmission line using 0.5 cm diameter conductors when these are placed at the corners of an equilateral triangle of each side 120cm.	<b>BTEEC402.2</b>	<b>5</b>
<b>Q. 5</b>	Calculate the capacitance of each conductor in a 3-phase, 3-wire system when the conductors are arranged in a horizontal plane with spacing of 8 meters apart and have a diameter of 2.6 cm. assume balanced load.	<b>BTEEC402.2</b>	<b>5</b>
<b>Q.6</b>	Find the loop inductance per km of a single phase overhead transmission line when conductors have relative permeability of (i) 1 (ii) 100. Each conductor has a diameter of 1 cm and they are spaced 3 m apart.	<b>BTEEC402.2</b>	<b>5</b>

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**MSE**

**Course: B. Tech in Electrical Engineering**

**Sem: IV**

**Subject Name: Analog & Digital Electronics**

**Subject Code: BTEE404**

**Max Marks: 20**

**Date:-12-05-2023**

**Duration:- 1 Hr**

**Instructions to the Students:**

1. Assume suitable data if necessary
2. Write all the answers with neat labeled diagram

		(Level/CO)	Marks
<b>Q.1</b>	<b>Answer the following questions</b>		
	1. In Active region, transistor works as _____. a) Rectifier b) Comparator c) Switch d) Amplifier	BTEE404.1	1
	2. We must set Q point at _____ of load line for amplification. a) Starting b) Ending c) Center d)None	BTEE404.1	1
	3. CMRR of OP -AMP should be as _____ as possible. a) Low b) High	BTEE404.1	1
	4. B (beta) is called as _____. a) Power efficiency b) Voltage amplification factor c) Current Amplification factor d) None	BTEE404.1	1
	5. We use IC ____ for OP AMP.	BTEE404.1	1
<b>Q.2</b>	<b>Solve Any three of the following.</b>		1:
<b>(A)</b>	Draw and explain block diagram of Multistage amplifier.	BTEE404.1	
<b>(B)</b>	Draw PIN diagram of OP-AMP IC with table.	BTEE404.1	
<b>(C)</b>	Draw and explain block diagram of typical Op-Amp.	BTEE404.1	
<b>(D)</b>	Draw and explain Frequency response and bandwidth of RC Coupled amplifier.	BTEE404.1	

\*\*\* End \*\*\*



Sri Balasaheb Mane Shiksha Prasang Mandali  
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Permanent Affiliates to UBAU, Lonere, Shivaji University, Kolhapur



NBA Accredited Programs \*  
\* Mechanical, Electrical, Civil



NAAC Accredited with "K" Grade  
With GPA of 3.18



## **Continuous Assessment-2**

### **Question Papers**



Shri Balasaheb Mane Shikshan Prasarak Mandal, Ambap's  
**ASHOKRAO MANE GROUP OF INSTITUTIONS, VATHAR**  
FACULTY OF ENGINEERING  
DEPARTMENT OF ELECTRICAL ENGINEERING


Date-16/06/2022

**CA II (EVEN Sem.)**

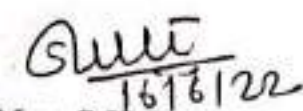
All faculties are here by informed that CA-II will start from 29<sup>th</sup> to 30<sup>th</sup> June 2022. So kindly submit hard copy of question paper in format before 25<sup>th</sup> June 2022. Exam schedule is as given below:

**Time-table**

Date	Time	Subjects			Total marks
		S.Y.	T.Y.	B.Tech	
29/06/2022	10.00 am to 11.00 am	Network Theory	Control System	DC Power Transmission Systems	20 Marks for each paper
	12.00 pm to 1.00 pm	Power System	Principles of Electrical Machine Design	Introduction to Industry 4.0 and Industrial Internet of Things	
	2 pm to 3 pm	Electrical Machine-II	Power Electronics		
30/06/2022	10.00 am to 11.00 am	Analog and Digital Electronics	Industrial automation and Control		
	12.00 pm to 1.00 pm	Electronic Devices and Circuits	Switch Gear and Protection		
	2 pm to 3 pm		Project Management		

  
**Prof.D.S.Patil**  
(Test Co-Ordinator)



  
**Prof. Mrs. S.H.Shete**  
(H.O.D.)

7. A - 21701 - 3  
ADE - Ved no

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

CA II

Course: B. Techin:Electrical Engg Sem: VI  
 Subject Name: Analog & Digital Electronics Subject Code: BTEEE404  
 Max Marks: 20

Date: \_\_\_\_\_ Duration:-1 Hr 30/6/22

Instructions to the Students:

1. All questions are compulsory.
2. Write all answers with neat labeled diagram.
3. Figure to the right indicates full marks.

Q.1	Answer the following questions	(Level/CO)	Marks
	1. In K-map group of _____ is not allowed. a)2b) 4c) 6d) 8	CO1	5
	2. In _____ circuits memory element is needed. a)Combinational b) Parallel c) Sequential d) None	CO1	
	3. Each individual term in standard POS form is called as _____. a)Mintermb) Maxterm c)Non Standard d) None	CO1	
	4. Output of Half Subtractor for input A=0 and B=1 is _____. a) D=0, B=1b) D=1, B=0c) D=1, B=1 d) D=0, B=0	CO1	
	5. Providing clock pulse at the same time to every Flip Flop is ___ type of circuit. a)Synchronous b) Asynchronousc) Series d) None	CO1	
Q.2	Solve Any three of the following.		15
(A)	Draw and explain 8:1 Multiplexer.	CO1	
(B)	Draw and explain Full adder.	CO1	
(C)	Solve by using K-Map. $\sum m (0,2,5,7,8,10,13,15)$	CO1	
(D)	Draw & explain R-S and D flip flop.	CO1	

\*\*\* End \*\*\*





Sri Balasaheb Mane Shiksha Prasang Mandal  
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D.T.E., Mumbai, Govt. of Maharashtra  
Permanent Affiliates to UBAU, Lonere, Shivaji University, Kolhapur



NBA Accredited Programs \*  
\* Mechanical, Electrical, Civil



NAAC Accredited with "K" Grade  
With GPA of 3.18



**Model Answer for Set**

**Question Paper**

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

Mid Semester Exam- April 2023

Course: B. Tech in Mechanical Engineering

Sem: VI

Subject Name: Machine Design II

Subject Code: BTMC 602

Class: T.Y. B. Tech

Division: A & B

Max Marks: 20

Date:- 01/04/2023

Time: 2.45 pm to 3.45 pm

Duration:- 1 Hour

**Instructions to the Students:**

1. All questions are compulsory
2. Assume suitable data if required
3. Use of non programmable scientific calculator is allowed

(Level/CO) Marks

**Attempt following questions**

		(Level/CO)	Marks
Q.1	Explain procedure of selection of bearing from manufacturer's catalogue.	CO1	05
Q.2	A ball bearing, subjected to a radial load of 5 kN, is expected to have a life of 8000 h at 1450 rpm with a reliability of 99%. Calculate the dynamic load capacity of the bearing, so that it can be selected from the manufacturer's catalogue based on a reliability of 90%	CO1	05
Q.3	Explain Gear tooth failure in detail.	CO2	05
Q.4	A pair of spur gears with 20° full-depth involute teeth consists of a 20 teeth pinion meshing with a 41 teeth gear. The module is 3 mm while the face width is 40 mm. The material for pinion as well as gear is steel with an ultimate tensile strength of 600 N/mm <sup>2</sup> . The gears are heat treated to a surface hardness of 400 BHN. The pinion rotates at 1450 rpm and the service factor for the application is 1.75. Assume that velocity factor accounts for the dynamic load and the factor of safety is 1.5 & Lewis form factor Y = 0.32 for 20 teeth. Determine the rated power that the gears can transmit.	CO2	05

\*\*\* End \*\*\*

## MODEL ANSWER

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE			
Mid Semester Exam– April 2023			
<b>Course:</b> B. Tech in Mechanical Engineering <b>Subject Name:</b> Machine Design II <b>Class:</b> T.Y. B. Tech <b>Date:-</b> 01/04/2023	<b>Sem:</b> VI <b>Subject Code:</b> BTMC 602 <b>Division:</b> A & B <b>Time:</b> 2.45 pm to 3.45 pm <b>Max Marks:</b> 20 <b>Duration:-</b> 1 Hour		
<b>Instructions to the Students:</b> <ol style="list-style-type: none"> <li>1. All questions are compulsory</li> <li>2. Assume suitable data if required</li> <li>3. Use of non programmable scientific calculator is allowed</li> </ol>			
		(Level/CO)	Marks
<b>Attempt following questions</b>			
Q.1	Explain procedure of selection of bearing from manufacturer's catalogue. <b>Answer:-</b> The basic procedure for the selection of a bearing from the manufacturer's catalogue consists of the following steps: (i) Calculate the radial and axial forces acting on the bearing and determine the diameter of the shaft where the bearing is to be fitted. (ii) Select the type of bearing for the given application. (iii) Determine the values of X and Y, the radial and thrust factors, from the catalogue. The selection of the bearing is, therefore, done by trial and error. (iv) Calculate the equivalent dynamic load from the equation. $P = XFr + YFa$ (v) Make a decision about the expected bearing life and express the life $L_{10}$ in million revolutions. (vi) Calculate the dynamic load capacity from the equation $C = P (L_{10})^{1/3}$ (vii) Check whether the selected bearing of series 60 has the required dynamic capacity. If not, select the bearing of the next series and go back to Step (iii) and continue. Ball bearings are thus selected by the trial and error procedure. The above procedure is also applicable to other types of bearings.	CO1	05
Q.2	A ball bearing, subjected to a radial load of 5 kN, is expected to have a life of 8000 h at 1450 rpm with a reliability of 99%. Calculate the dynamic load capacity of the bearing, so that it can be selected from the manufacturer's catalogue based on a reliability of 90% <b>Answer:-</b>	CO1	05

Given  $F_r = 5 \text{ kN}$   $n = 1450 \text{ rpm}$   $L_{99h} = 8000 \text{ h}$

**Step I** Bearing life with 99% reliability

$$L_{99} = \frac{60nL_{99h}}{10^6} = \frac{60(1450)(8000)}{10^6} \\ = 696 \text{ million rev.}$$

**Step II** Bearing life with 90% reliability

From Eq. (15.17),

$$\left(\frac{L_{99}}{L_{10}}\right) = \frac{\left[\log_e\left(\frac{1}{R_{99}}\right)\right]^{-1/1.17}}{\left[\log_e\left(\frac{1}{R_{10}}\right)\right]^{-1/1.17}} = \frac{\left[\log_e\left(\frac{1}{0.99}\right)\right]^{-1/1.17}}{\left[\log_e\left(\frac{1}{0.90}\right)\right]^{-1/1.17}} \\ = 0.1342$$

Therefore,

$$L_{10} = \frac{L_{99}}{0.1342} = \frac{696}{0.1342} = 5186.29 \text{ million rev.}$$

**Step III** Dynamic load carrying capacity of bearing

$$C = P(L_{10})^{1/3} = 5000(5186.29)^{1/3} = 86\,547.7 \text{ N}$$

Q.3 Explain Gear tooth failure in detail.

**Answer:-**

There are two basic modes of gear tooth failure breakage of the tooth due to static and dynamic loads and the surface destruction. The complete breakage of the tooth can be avoided by adjusting the parameters in the gear design, such as the module and the face width, so that the beam strength of the gear tooth is more than the sum of static and dynamic loads. The surface destruction or tooth wear is classified according to the basis of their primary causes. The principal types of gear tooth wear are as follows:

(i) Abrasive Wear Foreign particles in the lubricant, such as dirt, rust, weld spatter or metallic debris can scratch or brinell the tooth surface. Remedies against this type of wear are provision of oil filters, increasing surface hardness and use of high viscosity oils. A thick lubricating film developed by these oils allows fine particles to pass without scratching.

(ii) Corrosive Wear The corrosion of the tooth surface is caused by corrosive elements, such as extreme pressure additives present in lubricating oils and foreign materials due to external contamination. These elements attack the tooth surface, resulting in fine wear uniformly distributed over the entire surface. Remedies against this type of wear are, providing complete enclosure for the gears free from external contamination, selecting proper additives and replacing the lubricating oil at regular intervals.

(iii) Initial Pitting The initial or corrective pitting is a localized phenomenon, characterized by small pits at high spots. Such high spots are progressively worn out and the load is redistributed. Initial pitting is caused by the errors in tooth profile.

05

CO2

	<p>surface irregularities and misalignment. The remedies against initial pitting are precise machining of gears, adjusting the correct alignment of gears so that the load is uniformly distributed across the full face width, and reducing the dynamic loads.</p> <p>(iv) Destructive Pitting Destructive pitting is a surface fatigue failure, which occurs when the load on the gear tooth exceeds the surface endurance strength of the material. This type of failure is characterized by pits, which continue to grow resulting in complete destruction of the tooth surface and, in some cases, even premature breakage of the tooth. Destructive pitting depends upon the magnitude of the Hertz' contact stress and the number of stress cycles. This type of failure can be avoided by designing the gears in such a way that the wear strength of the gear tooth is more than the sum of static and dynamic loads. The surface endurance strength can be improved by increasing the surface hardness.</p> <p>(v) Scoring Excessive surface pressure, high surface speed and inadequate supply of lubricant result in the breakdown of the oil film. This results in excessive frictional heat and overheating of the meshing teeth. Scoring is a stick-slip phenomenon, in which alternate welding and shearing takes place rapidly at the high spots. Here, the rate of wear is faster. Scoring can be avoided by selecting the parameters, such as surface speed, surface pressure and the flow of lubricant in such a way that the resulting temperature at the contacting surfaces is within permissible limits. The bulk temperature of the lubricant can be reduced by providing fins on the outside surface of the gear box and a fan for forced circulation of air over the fins.</p>		
Q.4	<p>A pair of spur gears with <math>20^\circ</math> full-depth involute teeth consists of a 20 teeth pinion meshing with a 41 teeth gear. The module is 3 mm while the face width is 40 mm. The material for pinion as well as gear is steel with an ultimate tensile strength of 600 N/mm<sup>2</sup>. The gears are heat treated to a surface hardness of 400 BHN. The pinion rotates at 1450 rpm and the service factor for the application is 1.75. Assume that velocity factor accounts for the dynamic load and the factor of safety is 1.5 &amp; Lewis form factor <math>Y = 0.32</math> for 20 teeth.</p> <p>Determine the rated power that the gears can transmit.</p> <p><b>Answer:-</b></p>	CO2	05

**Step III Effective Load**

$$v = \frac{\pi d_p' n_p}{60 \times 10^3} = \frac{\pi(60)(1450)}{60 \times 10^3} = 4.5553 \text{ m/s}$$

$$C_v = \frac{3}{3 + v} = \frac{3}{3 + 4.5553} = 0.397$$

$$P_{\text{eff}} = \frac{C_s}{C_v} P_t = \frac{1.75}{0.397} P_t = (4.41 P_t) \text{ N}$$

**Step IV Static load**

In this example, the beam strength is lower than the wear strength. Therefore, beam strength is the criterion of design.

$$S_b = P_{\text{eff}}(f_s) \text{ or } 7680 = (4.41 P_t)(1.5)$$
$$\therefore P_t = 1161 \text{ N}$$

**Step V Rated power**

$$M_t = \frac{P_t d_p'}{2} = \frac{1161(60)}{2} = 34\,830 \text{ N-mm}$$

$$kW = \frac{2\pi n_p M_t}{60 \times 10^6} = \frac{2\pi(1450)(34\,830)}{60 \times 10^6} = 5.29$$

**Given**  $n = 1450 \text{ rpm}$   $z_p = 20$   $z_g = 41$   
 $m = 3 \text{ mm}$   $b = 40 \text{ mm}$   $C_s = 1.75$   $(f_s) = 1.5$   
 $\text{BHN} = 400$   $S_w = 600 \text{ N/mm}^2$

**Step I Beam strength**

Since the same material is used for the pinion and the gear, the pinion is weaker than the gear. From Table 17.3, the Lewis form factor is 0.32 for 20 teeth.

$$\sigma_b = \left(\frac{1}{3}\right) S_w = \left(\frac{1}{3}\right)(600) = 200 \text{ N/mm}^2$$

$$S_b = mb\sigma_b Y = 3(40)(200)(0.32) = 7680 \text{ N}$$

**Step II Wear strength**

$$Q = \frac{2z_g}{z_g + z_p} = \frac{2(41)}{41 + 20} = 1.344$$

$$K = 0.16 \left(\frac{\text{BHN}}{100}\right)^2 = 0.16 \left(\frac{400}{100}\right)^2 = 2.56$$

$$d_p' = mz_p = 3(20) = 60 \text{ mm}$$

$$S_w = bQd_p'K = 40(1.344)(60)(2.56)$$
$$= 8257.54 \text{ N}$$





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NAAC Accredited with "K" Grade  
With GPA of 3.18



## Assessed Answer Book



**Dr. Babasaheb Ambedkar Technological University, Lonere**  
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Vathar Terf Vadgaon, Tal. Hatkanangale, Dist. Kolhapur, (M.S.) Pin 416 112.



(To be filled by the Candidate) Sr. No.

**023911**

*Mid Sem Exam./Unit Test-I/Unit Test-II/POE*

Course: TY-CSE

Exam Seat No.: 

				0	3
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Subject: Business communication Code: BTHM505

Semester: V

Examination Seat No.

Center: AMG01

2	2	6	2	1	7	1	2	4	2	5	1					
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Date: 16/9/23

Time: \_\_\_\_\_

Prof. P. P. Nagarale

*Prof. Nagarale*

Name of the Supervisor

Signature of the Supervisor

(To be filled in by the examiner)

Q. No.	1	2	3	4	5	6	7	8	Total Marks In Fig.	Signature
			4	4	4	4				

(Start writing from here)

Q.2 Intercultural communication in business communication is the process of exchanging information and ideas from individuals or group of individuals where peoples communicate with each other.

4 Intercultural communication is the idea of exchanging facts, emotions and concern to well understanding of two people who are come from different culture.

Use of culture communication -



In America or other countries people meet with each other by "shake hand" or "hug each other" and in our country we "say namaskar" with joining our to hands is the best example of cultural difference in intercultural comm<sup>n</sup>.

Trends of intercultural comm<sup>n</sup> are -

1] Globalization

2] Multicultural Workforce.

1] Globalization -

Globalization refers to the removal or reduction of barriers of different group, people understand each other which are come from different culture and background.

2] Multiculture workforce -

It refers to the peoples comes from different culture and understand how to share our information & that is understandable to people.

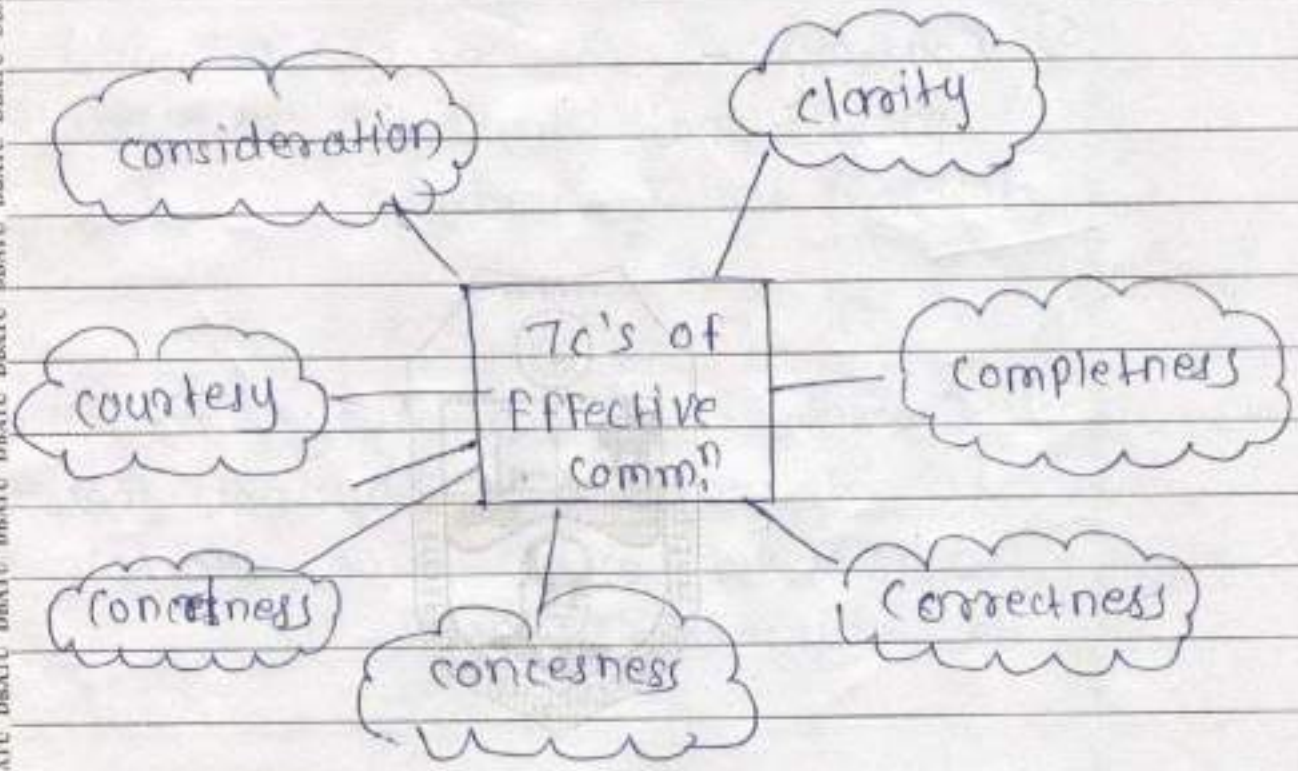
Do's of Interculture comm<sup>n</sup> -

1] Avoid assumptory jokes that are not

3) Avoid those words or language that denigrate the communication.

4) Use simple and clear structure to explain.

Q.3



4

1) Clarity - Use simple words and clear explanation

2) Completeness - Make sure that your business message contains all the information that completes queries.

3) Correctness - Use proper spelling

5) Consideration - Make sh. sure that your communication information understands emotions, concerns, challenges to communicate.

6) Conciseness - keep msg short and simple.

6) Courtesy - Use respectful and professional language in the to deliver the information.

7) Conciseness - Use flags or charts to deliver your business message to people with some example or a diagrammatic way.

Q.4

### Communication networks -

- 1] Vertical Network
- 2] Wheel network
- 3] Chain network
- 4] Star Network
- 5] Ring Network.  
circuit

#### 1] Vertical Network -

In vertical network two people communicate with each other in vertical manner.

It is the communication from superior and subordinator.

It is a two way communication

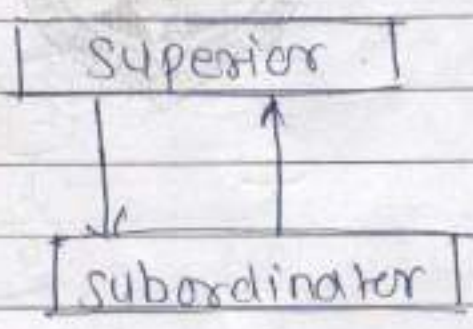


Fig. Vertical Network.

circuit

#### 2] ~~Wheel~~ network.

In wheel network two people communicate with each other simultaneously.

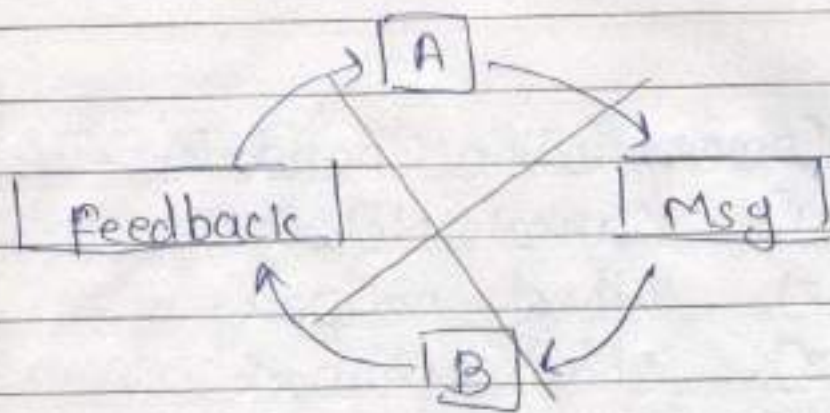


Fig. Wheel network.

### 3) Chain Network:-

In this type of communication network, communication is the hierarchical and linear manner.

It In this type bottom to top comm<sup>n</sup> is not performed.

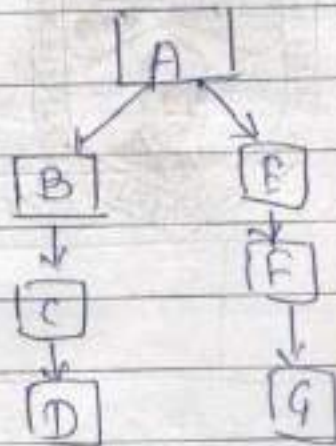


Fig. Chain Network.

In this, A is the superior if other B, C, D, E, F, G are subordinates that will receive the

## 4. Star Network -

In star network <sup>no</sup> central person acts like a hub for communication. In this type of communication network each person communicate with each other.

This network considered of as efficient and easy to communicate well with others.

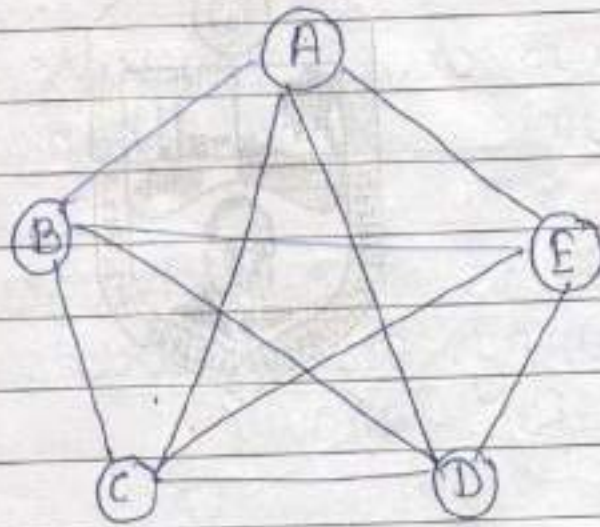


Fig. Star Network

Q.5

## Communicative Competence -

1] Communicative Competence is process of exchanging information using proper language.

2] It is not only about known grammar and words to communicate but also the understanding of how we use it in systematic and efficient way to understand each others perfectly.

3] Communicative Competence is dynamic rather than static way.

4] It is the exchange of information by using proper words or using respectful language.

5] It is the "ability of using things for communicate using language. We can say good communication person is is when -

1] He has ability to use word and language when communicate.

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Pooja K

Circuit

5) wheel Network -

In this type of communication there is one central person which acts like central hub

Here A is superior and all others are subordinates.

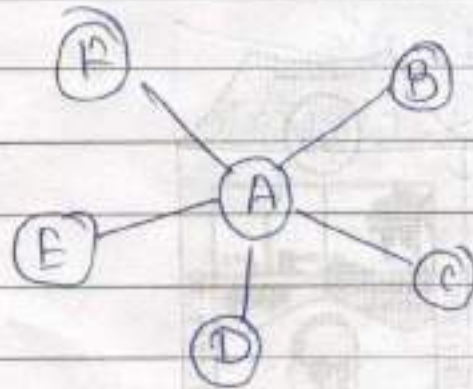
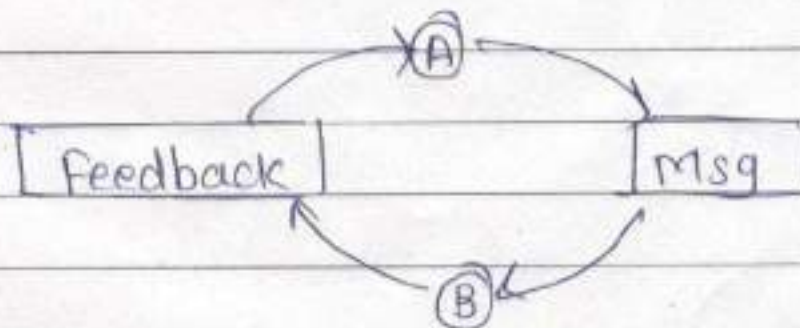


Fig. wheel Network.

2) circuit Network.





## Wheel Network -

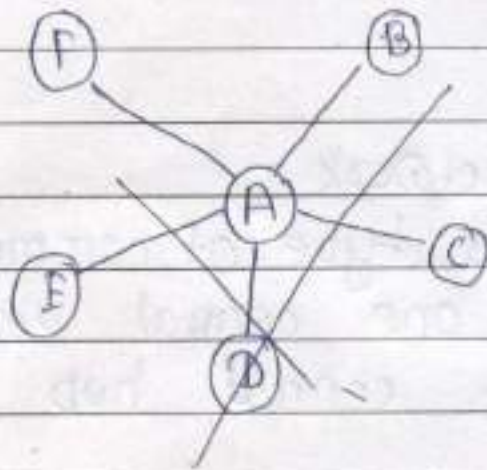


Fig. wheel Network.

~~s) Ring Network.  
In ring network~~



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## Mid-Semester

## Examination Result



**ASHOKRAO MANE GROUP OF INSTITUTIONS**

Department of Electrical Engineering

**MSE RESULT**

Academic Year:2022-23

**SY SEM: IV**

SR.NO.	Enrollment Number	Full Name	MSE				
			Network	PS	EM II	ADE	EDC
1	2162171293001	KIBILE SHRAVANI SATYASHIL	19	19	19	19	19
2	2162171293002	TUPE ROHAN SURESH	16	15	15	14	14
3	2162171293003	PATIL VINAYAK RAJENDRA	14	14	14	14	14
4	2162171293004	PATIL PRACHI SARDAR	19	20	19	19	19
5	2162171293005	PAWAR SANKET BHANUDAS	13	13	12	12	12
6	2162171293006	PATIL HARSHAVARDHAN BALASO	15	14	13	13	13
7	2162171293009	PATIL SHRADDHA SUHAS	16	18	17	17	17
8	2162171293010	YADAV SOHAM YASHWANT	18	18	16	15	15
9	2162171293011	YADAV PATIL TUSHAR RAJENDRA	15	14	14	14	14
10	2162171293012	SHIRGUPPE SAMMED MAHAVEER	16	15	14	14	14
11	2162171293013	GARADE RAVIRAJ BHAGVAN	14	13	13	14	14
12	2162171293014	MANE PRATIKSHA PRAKASH	17	18	15	15	15
13	2162171293015	MOHITE PRATHIMESH SHASHIKANT	14	13	13	14	14
14	2162171293016	CHUGULE RUGVED RAJKUMAR	15	12	12	12	12
15	2162171293018	PATIL SAIRAM MUTTAPPA	14	12	12	12	12
16	2162171293019	PATIL PRATIKRAJ SANTOSH	14	15	14	13	13
17	2162171293020	BARGE MRUNALI VIPINKUMAR	18	18	16	17	17
18	2162171293021	HARUGADE RUSHIKESH RANGRAO	16	13	13	13	13
19	2162171293022	GAVALI TUSHAR SURESH	13	13	12	12	12
20	2162171293023	INGLE VEDANT RAJAN	19	20	20	18	18
21	2162171293024	PATIL TUSHAR MANIK	14	16	13	14	14
22	2262171293501	KSHIRSAGAR GITANAJALI SHARAD	13	14	12	12	12
23	2262171293502	SOKASANE SANKALP NANDKUMAR	16	18	16	15	15
24	2262171293503	KHANDAE HARSHVARDHAN PRAKASH	14	16	14	14	14

			NUMBER	TO	DATE	AGE	EDU.
25	2262171293504	POWAR RUSHIKESH DILIP	16	16	15	15	15
26	2262171293505	MITAKE SWAPNIL NAMDEV	16	16	14	14	15
27	2262171293506	BARAGE DIGVIJAY MAHADEV	17	19	16	15	15
28	2262171293507	SHAMIM ASIF	13	13	13	14	14
29	2262171293508	PASARE OMKAR BALASAHEB	15	14	13	14	14
30	2262171293509	MUJAWAR LATIFA KABIR	18	15	14	14	14
31	2262171293510	PATIL PALLAVI SHANKAR	16	18	15	15	15
32	2262171293511	SHINDE VAISHNAVI SHAHAJI	17	18	15	15	15
33	2262171293512	MALI SUJIT ANIL	16	19	15	15	15
34	2262171293513	PATIL MAHESH SANTOSH	14	16	12	12	12
35	2262171293514	PATIL NISHANT DURYODHAN	15	18	16	15	15
36	2262171293515	PATIL MAYURESH VISHWAS	17	15	15	15	15
37	2262171293516	MAGDUM PRATHMESH CHANDRAKANT	14	14	14	14	14
38	2262171293517	SHINDE SANKET DEEPAK	15	17	15	15	15
39	2262171293518	PUJARI AKSHAY KARYAPPA	16	18	18	17	17
40	2262171293519	KHABADE NISHA SANJAY	18	18	17	16	16
41	2262171293520	PATIL BALAJI TANAJI	13	14	12	12	12
42	2262171293521	DHAVAL SAMMED RAJKUMAR	15	18	15	15	15
43	2262171293522	SHELAR SAKSHI DILIP	18	18	16	16	16
44	2262171293523	SHAHA KOMAL YOGESH	16	18	15	15	15
45	2262171293524	KHAN MOHAMMED UMAR MUKHTAR ALI	16	16	14	14	14
46	2262171293525	PATIL SAMRUDDHI SHIVAJI	18	19	20	18	18
47	2262171293526	JALANE SANKET SANJAY	16	19	15	15	15
48	2262171293527	NAGARALE ROHIT YUVARAJ	17	18	15	15	15
49	2262171293528	SAVALEKARI RUTUJA SUBHASH	18	20	20	18	18
50	2262171293529	INDALKAR YUVARAJ PARASHARAM	15	15	13	13	13
51	2262171293530	SANGLIKAR JAYTIRTH ARVIND	15	15	13	13	13
52	2262171293531	YADAV NITIN TANAJI	16	17	16	16	16
53	2262171293532	ARADE PRATHAMESH GANAPATI	15	16	14	14	14
54	2262171293533	KAMME NEHA SHIVAJI	16	16	15	15	15
55	2262171293534	PATIL AKASH DINKAR	13	14	12	12	12
56	2262171293535	WAINGADE SANGRAM SUNIL	16	18	18	18	18

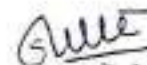
57	2262171293536	SHINDE SHUBHAM SANJAY					
58	2262171293537	SHEDBALE ROHAN DASHRATH	16	14	13	14	14
59	2262171293538	PATIL SHIVARAJ RAJARAM	13	14	12	12	12
60	2262171293539	SAVARE OMKAR SURESH	16	13	14	14	14
61	2262171293541	SUTAR PRATHMESH SHIVAJI	16	13	13	13	13
62	2262171293542	BACHCHE PRATHMESH PARSHURAM	13	13	13	13	13
63	2262171293543	CHAVAN PRITAM SUNIL	16	18	18	15	15
64	2262171293544	MEHERKAR SARANG SACHINE	13	16	15	15	15
65	2262171293545	PATIL RAJKUMAR HANMANT	17	16	15	15	15
66	2262171293546	POTE PRATIK JINENDRA	13	16	13	13	13
67	2262171293547	PATIL ABHISHEK DEEPAK	13	16	13	13	13
68	2262171293548	YADGAVE SHREYAS SHAMSUNDAJI	13	15	13	13	13
69	2262171293549	KAMBLE RASIKA BABURAO	13	13	12	12	12
70	2262171293550	NIKAM KUNAL SHIVAJI	15	16	13	13	13
71	2262171293551	DALWAI NAZIM MAHAMMADHUSEN	13	13	12	12	12
72	2262171293552	PATIL ATUL BALGONDA	17	18	17	17	17
73	2262171293553	DODE PRATHMESH VIJAY	14	16	13	13	13
74	2262171293554	SALOKHE SUSHANT PANDURANG	13	16	13	13	13
75	2262171293555	SHETE ROHAN SHANTINATH	13	16	13	13	13
76	2262171293556	JAVIR UMESH SURYAKANT	13	14	13	13	13
77	2262171293557	ATHARV MALLIKARJUN KOLI	16	18	15	15	15
78	2262171293558	PATIL YASH UMESH	15	16	14	14	14
79	2262171293559	AVDHUT BHAGAWAN PATIL	16	18	17	17	17
80	2262171293560	MAGDUM ANUSHKA ARUNKUMAR	16	18	13	14	14
81	2262171293561	LANJEKAR ARMAN BABALAL	19	19	18	17	17
82	2262171293562	PATANKAR MOHSIN MOHAMMADHASAN	14	17	16	16	16
83	2262171293563	KAWARE SHIVAM SHAILESH	14	13	12	12	12
84	2262171293564	PATIL PRERANA UMESH	17	20	20	18	18
85	2262171293565	JAGTAP RUSHIKESH RAMESH	16	15	14	15	15
86	2262171293566	KAMBLE OMKAR TUKARAM	15	16	15	15	15
87	2262171293567	CHAVAN ADITYA RAOSAHEB	14	15	13	13	13
88	2262171293568	PATIL SANIKA SUNIL	17	18	16	16	16

						ADE	EDC
90	2262171293570	UJJAYAN PATIL, PRACHE RAJARAM	13	14	13	13	13
91	2262171293571	MADHALE ANIKET VINOD	14	18	15	15	15
92	2262171293572	BALLAL OMKAR ARUN	13	15	12	12	12
93	2262171293573	KOGNOLE TUSHAR BHAUSO	13	18	17	17	17
94	2262171293574	KADAM PRATIKA PRAKASHI	18	18	14	14	14
95	2262171293575	JADHAV PRATHMESH RAJARAM	13	16	13	13	13
96	2262171293576	GHORAPADE RUTUJA SANTOSH	13	19	17	17	17
97	2262171293577	CHOUGULE PRAJAKTA ANANDA	15	19	17	17	17
98	2262171293579	BABAR AJAY DRONACHARYA	13	15	13	13	13
99	2262171293580	MAHIND SANIKA DHANAJI	13	14	12	12	12
100	2262171293581	SALVI YASH HARIDAS	15	18	16	16	16
101	2262171293582	SANGRAM SOPAN KANOJE	13	16	13	13	13
102	2262171293584	NADAF SOHEL RAMJAN	15	16	14	14	14
103	2262171293585	DESHMUKH RUTURAJ SHASHIKANT	14	18	15	15	15
104	2262171293586	DAVANE NIKHIL CHANDRAKANT	15	17	15	15	15
105	2262171293587	BHINGARADEVE SAHIL SAKHARAM	14	13	13	13	13
106	2262171293588	BARGE RANJEET DATTATRAY	14	13	13	13	13
107	2262171293589	SHRUTI PANDURANG JAGADALE	13	13	13	13	13
108	2262171293590	GURAV RAJYARDHAN SHIVAJI	13	13	12	12	12
109	2262171293593	RUPESH NITIN RASANKAR	14	15	14	14	14
110	2262171293594	MANE KISHOR PRATAP	15	18	15	15	15
111	2262171293595	TRUPTI CHANDRAKANT AVAGHADE	17	19	15	15	15
112	2262171293599	PATIL RUTUJA KRUSHNAT	15	19	16	16	16
113	2262171293600	PATIL ATHARV SARJERAO	15	18	14	14	14
114	2262171293601	PATIL ABHJEET SAMPAT	14	18	14	14	14
115	2262171293602	SAMDOLLE SOURABH SATISH	13	13	13	13	13
116	2262171293603	MULIK SUMIT RAMESH	13	14	13	13	13
117	2262171293604	MENSANGI MANASI MALLESH	13	14	15	15	15
118	2262171293605	KSHIRSAGAR SAKSHI VINAYAK	13	14	14	14	14
119	2262171293606	MANE YOGITA YUVRAJ	13	14	14	14	14
120	2262171293607	PRASAD MALLIKARJUN HIREMATH	13	14	14	14	14
		SIDDHEH SANJY BHOSALE	13	14	14	14	14

SR.NO.	Enrollment Number	Full Name	Network	PS	FM II	ADE	EDC
121	2262171293608	PUJARI SANDIP SHAMRAV	16	15	13	13	13
122	2262171293609	PATIL SHUBHAM PRAVIN	14	14	13	13	13
123	2262171293610	DESAI NIKHIL TUKARAM	13	14	12	12	12
124	2262171293611	KAMLAKAR CHINMAY SATISH	14	14	13	13	13
125	2262171293612	THORAT SHRUTIKA DHANAJI	13	13	13	13	13
126	2262171293613	GHURE VAIBHAV BABAN	13	15	13	13	13
127	2262171293614	PANCHAL PRATIK DHANANJAY	13	13	13	13	14
128	2262171293615	BARAGE ASHLESHA RAMCHANDRA	13	15	14	14	14
129	2262171293616	JADHAV ROHIT DEEPAK	13	13	13	13	15
130	2262171293617	SANADI KAJAL SIKANDAR	13	14	13	13	16
131	2262171293619	SUTAR BALASAHEB DATTATRAYA	13	14	13	13	17

  
Test Coordinator



  
HOD

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