SEAT NO: 2382

QP SET : 1

Shree Warana Vibhag Shikshan Mandal's

Tatyasaheb Kore Institute of Engineering & Technology

Warananagar, Tal- Panhala, Dist- Kolhapur -416 113, Maharashtra

An Autonomous Institute, Affiliated to Shivaji University, Kolhapur

Second Year B.Tech. (Electrical Engg.) (Sem-IV)

END SEMESTER EXAMINATION (ESE) MAY-JUNE-2026 (SUMMER)

Course Name : ANALOG & DIGITAL ELECTRONICS **Course Code:** 25UGPCCEE401

Day & Date : Tuesday, 30-Jun-26. **Max Marks :** 60 Marks

Time : 10.00 AM TO 12.00 PM.

Instructions:

i. **All Questions are compulsory**
ii. Figure to the right indicates full marks.
iii. Assume suitable data if missing.
iv. Use of non-programmable calculators is allowed.

Q. No.		Marks	BL	CO
1	**Attempt any Two from the following.**	12		
a	Differentiate between forward bias and reverse bias of a diode.		3	I
b	Draw and explain the V-I characteristics of a P-N Junction Diode.		2	I
c	Explain the working principle of an NPN transistor.		2	II
2	**Attempt any Two from the following**	12		
a	Differentiate between Ideal and Practical Op-Amp.		3	II
b	Discuss the importance of number systems in digital electronics.		2	III
c	Differentiate between Inverting and Non-Inverting Amplifiers.		3	II
3	**Attempt any Two from the following**	12		
a	Define K-Map and explain its purpose.		2	III
b	Discuss the advantages of K-Map over Boolean algebra simplification.		2	II
c	Draw and explain the logic circuit of a Half Adder.		3	IV
4	**Attempt any Two from the following**	12		
a	Define an S-R Flip-Flop.		2	IV
b	Define a J-K Flip-Flop and explain its operation.		2	IV
c	Define a T Flip-Flop and explain its operation.		2	IV
5	**Attempt any Two from the following**	12		
a	Define a Clamper circuit and explain its function.		2	I
b	Explain the working principle of a PNP transistor		2	II
c	Draw and explain the logic circuit of a Full Adder		3	III
d	Define a Master-Slave J-K Flip-Flop.		2	IV

SEAT NO : 2381

OPSET : 1

Shree Warana Vibhag Shikshan Mandal's
Tatyasaheb Kore Institute of Engineering & Technology
Warananagar, Tal- Panhala, Dist- Kolhapur 416 113, Maharashtra
An Autonomous Institute, Affiliated to Shivaji University, Kolhapur

Second Year B.Tech. (Electrical Engg.) (Sem-IV)

END SEMESTER EXAMINATION (ESE) JULY-2026 (SUMMER)

Course Name : AC Machine **Course Code:** 25UGPCCEE402

Day & Date : Thursday, 02/07/2026 **Max Marks :** 60 Marks

Time : 10:00 AM to 12:00 PM

Instructions:

i. All Questions are compulsory
ii. Figure to the right indicates full marks.
iii. Assume suitable data if missing.
iv. Use of non-programmable calculators is allowed.

Q. No.		Marks	BL	CO
1	**Attempt any Two from the following.**	12		
a	Draw & explain Capacitor start & capacitor run type Induction Motor. State its applications		2	I
b	Draw & explain construction of 3 phase induction motor		2	IV
c	A three-phase, 6-pole, 430V, 50 Hz induction motor is running at a speed of 1490 rpm and it is taking an input of 25 kW. Stator losses are 1.8 kW, rotor losses are 2.5kW & mechanical losses are 0.7 kW. Find: i). Mechanical power developed ii). Efficiency of motor iii). Gross torque		4	II
2	**Attempt any Two from the following**	12		
a	Explain the equivalent circuit of a three-phase induction motor & Draw the phasor diagram		2	IV
b	Describe the principle of operation of a synchronous generator		2	III
c	A 3-phase alternator has 72 turns/phase, flux = 0.075 Wb, pitch factor = 0.35 distribution, factor = 0.47, frequency = 50 Hz. Find. i).EMF per phase ii).Line voltage		4	II
3	**Attempt any Two from the following**	12		
a	Explain methods of starting synchronous motors with neat diagrams		2	III
b	Explain the Effect of changing Field excitation at i).Under Excitation ii).Normal-Excitation iii). Over-Excitation		2	IV
c	Explain V-curves of synchronous motor with neat sketch		4	II

4	**Attempt any Two from the following**	**12**		
a	Define voltage regulation of an alternator and explain the determination of voltage regulation of an alternator by Synchronous Impedance (EMF) Method		4	II
b	What is synchronization of alternators? Explain the synchronization by i). By using Synchro-scope. ii). By using one dark & two bright lamp method		2	III
c	Explain the advantages & condition for parallel operation of alternators		2	III
5	**Attempt any Two from the following**	**12**		
a	Draw & explain Universal Motor. State its applications		2	I
b	Compare single cage and double cage induction motors		2	IV
c	Explain the DC field excitation system of an alternator with neat sketch		2	III
d	Explain synchronous condenser with neat sketch & write its advantages and dis-advantages		2	III

SEAT NO : 2381

QP SET : 1

Shree Warana Vibhag Shikshan Mandal's

Tatyasaheb Kore Institute of Engineering & Technology

Warananagar, Tal- Panhala, Dist- Kolhapur -416 113. Maharashtra

An Autonomous Institute, Affiliated to Shivaji University, Kolhapur

Second Year B.Tech. (Electrical Engineering) (Sem-II)

END SEMESTER EXAMINATION (ESE) JUNE-JULY-2026 (SUMMER)

Course Name : Power Transmission and Distribution System **Course Code:** 25UGPCCEE403

Day & Date : Saturday & 4/07/2026 **Max Marks :** 60 Marks

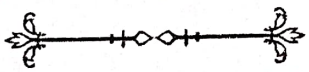
Time : 10 AM TO 12.00 PM

Instructions:

i. **All Questions are compulsory**
ii. Figure to the right indicates full marks.
iii. Assume suitable data if missing.
iv. Use of non-programmable calculators is allowed.

Q. No.		Marks	BL	CO
1	**Attempt any Two from the following.**	12		
a	Explain the structure of an electrical power system with neat diagram		2	I
b	Define the given terms 1. Diversity Factor 2. Demand Factor 3.Maximum demand		1	I
c	State the different types of insulators used in overhead transmission lines. Illustrate the construction and applications of Pin type insulator		2	II
2	**Attempt any Two from the following**	12		
a	Define skin effect in transmission lines and explain why it occurs.		2	III
b	Discuss the importance of considering skin effect and proximity effect in the design of transmission lines.		2	III
c	Derive the expression for Inductance of Inductance of a 3-phase Overhead lines for symmetrical spacing		3	IV
3	**Attempt any Two from the following**	12		
a	Explain the construction and working principle of a D.C. transmission system (HVDC) with suitable diagram.		2	III
b	Explain why D.C. transmission is preferred for long-distance bulk power transmission and submarine cables.		2	IV
c	Compare A.C. and D.C. transmission systems on the basis of: Voltage transformation, Losses, Number of conductors, Stability, Cost, Efficiency		4	IV
4	**Attempt any Two from the following**	12		
a	Explain the construction and working of an A.C. distribution system. State its advantages over D.C. distribution.		2	IV
b	Explain various connection schemes of distribution systems such as radial, ring main, and interconnected systems.		3	IV
c	A uniformly loaded D.C. distributor is fed at one end at 220 V. The distributor is 400 m long and carries a load of 2 A/m. If the resistance of the distributor is 0.0002 Ω/m (go and return), calculate: (a) Total voltage drop (b) Voltage at the far end of the distributor.		3	III

5	**Attempt any Two from the following**		**12**	
a	What is Demand Factor? The maximum demand on a power station is 100MW. If the annual load factor is 40%. Calculate the total energy generated in a year		3	III
b	What is corona in overhead transmission lines? Explain the advantages and disadvantages of corona.		2	IV
c	Define the Ferranti Effect in the power system and explain in detail		2	III
d	A two-wire D.C. distributor 300 m long is fed from one end and loaded as follows: 40 A at 100 m from feeding point, 30 A at 200 m, and 20 A at 300 m. The resistance of each conductor is 0.02 Ω per 100 m. Calculate the voltage drop in the distributor and determine the far-end voltage if the supply voltage is 240 V.		3	IV



(2321)

Shree Warana Vibhag Shikshan Mandal's

Tatyasaheb Kore Institute of Engineering & Technology

Warananagar, Tal- Panhala, Dist- Kolhapur -416 113, Maharashtra

An Autonomous Institute, Affiliated to Shivaji University, Kolhapur

Second Year B.Tech. (Electrical Engineering) (Sem-IV)

END SEMESTER EXAMINATION (ESE) MAY-JUNE-2026 (SUMMER)

Course Name: EFFECTIVE TECHNICAL COMMUNICATION **Course Code:** 25UGEEC2EE408

Day & Date: Tuesday 7/7/2026 **Max Marks:** 60 Marks

Time: 10.00am to 12.00pm

Instructions:

i. All Questions are compulsory.
ii. Figures to the right indicate full marks.
iii. Assume suitable data if missing.
iv. Use of non-programmable calculators is NOT allowed.

1	**Attempt any Two from the following. (Attempt Any Two)**				12
a	Define communication. Explain the process of communication with the help of a neat diagram.	6	L2	CO1	
b	What is non-verbal communication? Explain the elements of Kinesics and Proxemics with suitable examples.	6	L2	CO1	
c	Write an Agenda and Minutes of Meeting for a departmental meeting held in your college on the topic of "Improving Lab Facilities".	6	L2	CO1	
2	**Attempt any Two from the following. (Attempt Any Two)**				12
a	Explain the scope of Engineering Ethics. Discuss any four impediments that prevent engineers from accepting responsibility.	6	L2	CO2	
b	Define Group Discussion. How does a GD differ from a Debate? Explain the personality traits that lead to success in a GD.	6	L2	CO2	
c	Explain the standard elements and layouts of a formal letter. Write a job application letter for the post of Software Engineer	6	L3	CO2	
3	**Attempt any Two from the following. (Attempt Any Two)**				12
a	How should a professional systematically manage an angry customer calling to report a major product malfunction and what specific phone etiquettes must be followed to de-escalate the situation?	6	L3	CO3	
b	What are the different categories of job interviews, and why are both verbal and non-verbal communication cues critical to achieving a successful outcome?	6	L2	CO3	
c	Compare and contrast the business meeting etiquettes, personal space norms, and communication styles.	6	L2	CO3	

4	**Attempt any Two from the following. (Attempt Any Two)**			**12**
a	Discuss any four impediments that prevent engineers from accepting responsibility.	6	L2	CO4
b	What is Whistleblowing? Discuss its types and the conditions under which an engineer should resort to it.	6	L2	CO4
c	Elaborate on the role of small talk as an ice-breaking mechanism in business environments.	6	L3	CO4
5	**Attempt any Two from the following. (Attempt Any Two)**			**12**
a	Discuss the importance of Self-Development with reference to any four of the following: Change, Grow, Prioritize, Read, Listen, Assess.	6	L3	CO5
b	Write short notes on Time Management and Negotiation Skills	6	L2	CO5
c	Explain the planning, organizing, and delivery stages of a professional presentation. What are the four modes of delivery?	6	L2	CO3
d	Draft a resume for a fresh B.Tech. graduate applying for a position of Junior Software Developer at a reputed IT company.	6	L3	CO2

All the best!

SEAT NO: 2381

QP SET: 1

Shree Warana Vibhag Shikshan Mandal's

Tatyasaheb Kore Institute of Engineering & Technology

Warananagar, Tal- Panhala, Dist- Kolhapur -416 113, Maharashtra

An Autonomous Institute, Affiliated to Shivaji University, Kolhapur

Second Year B.Tech. Computer Science & Business Systems (Sem-IV)

END SEMESTER EXAMINATION (ESE) JUN-JULY 2026 (SUMMER)

Course Name: Marketing Research & Marketing Management **Course Code:** 25UGOE1CB4061

Day & Date: Thursday, 09-JUL-2026 **Max Marks:** 60 Marks

Time : 10.00 AM To 12.00 PM

Instructions:

i. All Questions are compulsory.
ii. Figure to the right indicates full marks.
iii. Assume suitable data if missing.
iv. Use of non-programmable calculators is allowed.

Q. No.		Marks	BL	CO
1	**Attempt any Two from the following.**	12		
a	Explain the nature, scope, significance, and core concepts of marketing, including needs, wants, demand?		2	I
b	Explain the cultural, social, personal, and psychological factors influencing consumer buying behavior and discuss the consumer decision-making process?		2	IV
c	Analyze the process of market segmentation, targeting, and positioning (STP) and evaluate its significance in developing effective marketing strategies?		4	V
2	**Attempt any Two from the following**	12		
a	Explain the concept, scope, significance, and applications of marketing research, and discuss the stages involved in the marketing research process?		2	III
b	Compare and contrast various primary data collection methods used in marketing research, highlighting their advantages and limitations?		4	II
c	Apply suitable measurement and scaling techniques for collecting and analyzing marketing research data in a given business scenario?		4	II
3	**Attempt any Two from the following**	12		
a	Explain the concept of Product Life Cycle (PLC) and discuss the stages involved in the new product development process?		2	IV
b	Analyze various pricing methods and pricing strategies adopted by organizations to achieve marketing objectives?		3	IV
c	Evaluate the role of distribution channels and integrated marketing communication tools in enhancing market performance and customer value?		3	IV
4	**Attempt any Two from the following**	12		
a	Explain the emerging trends in marketing, including digital marketing, social media marketing, relationship marketing, and green marketing?		2	IV
b	Apply marketing analytics tools and dashboards to support data-driven marketing decisions and evaluate marketing performance?		3	IV
c	Analyze the impact of digital and social media marketing on consumer engagement and organizational performance?		4	IV

5	**Attempt any Two from the following**	**12**		
a	Critically examine various marketing management philosophies and differentiate between the marketing concept and the selling concept?	3	I	
b	Develop a marketing research design for a business problem by selecting appropriate research methods, data sources?	3	III	
c	Evaluate the effectiveness of advertising, sales promotion, personal selling, and public relations in achieving marketing communication objectives?	5	IV	
d	Analyze the impact of digital and social media marketing on consumer engagement and organizational performance?	4	IV	