ST. ANNE'S COLLEGE OF ENGINEERING AND TECHNOLOGY

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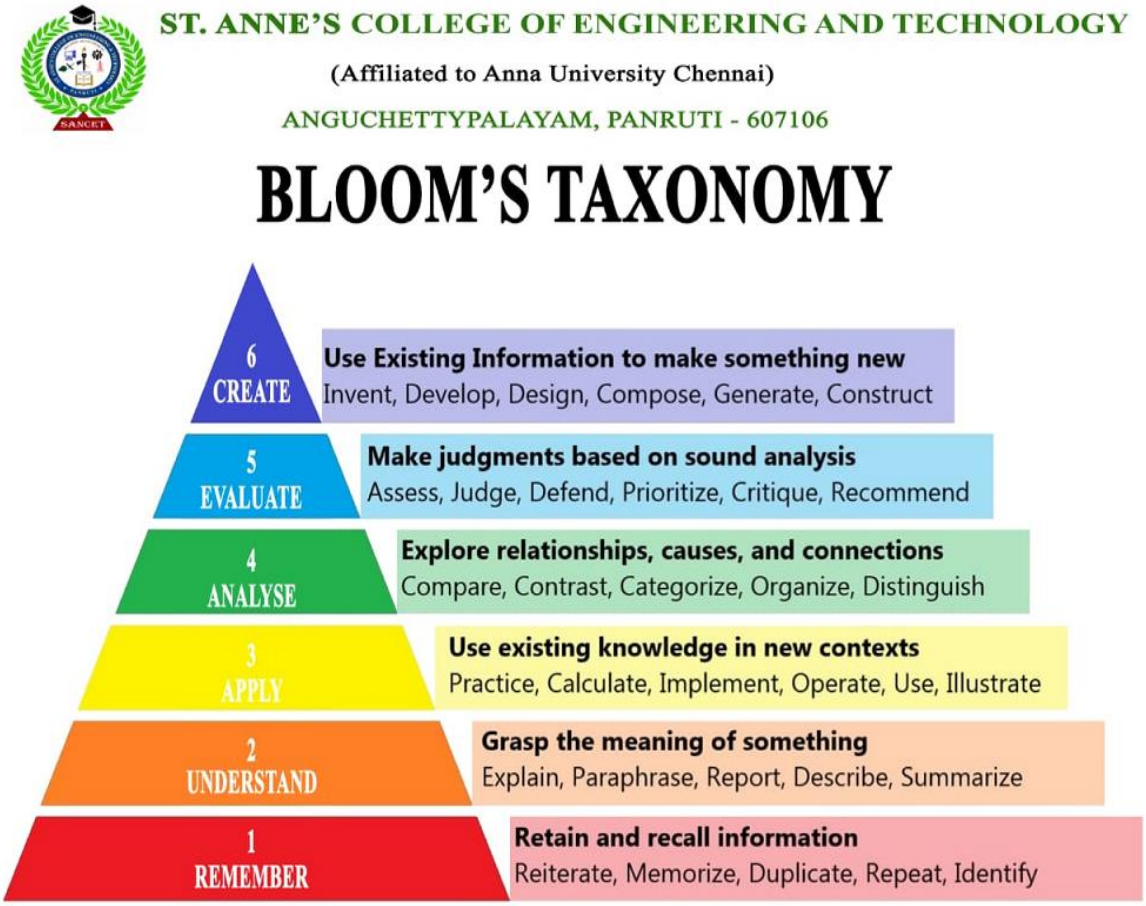
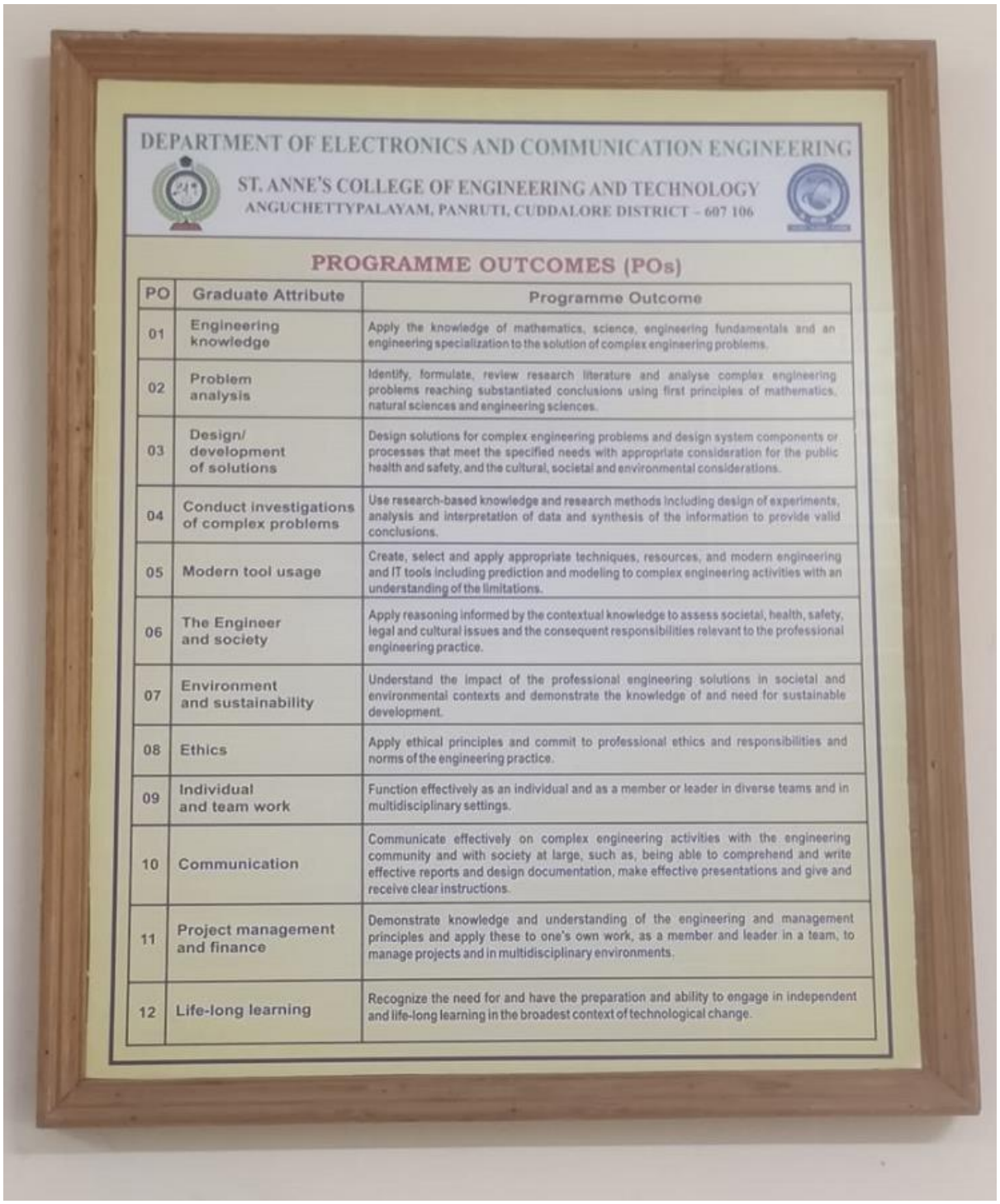
Programme Outcomes (POs) and Programme Educational Objectives and Programme Specific Outcomes (PSOs) for all Programmes offered by the institution are stated and displayed on website

BLOOM'S TAXONOMY DISPLAY PANEL



PROGRAMME OUTCOMES DISPLAY PANEL



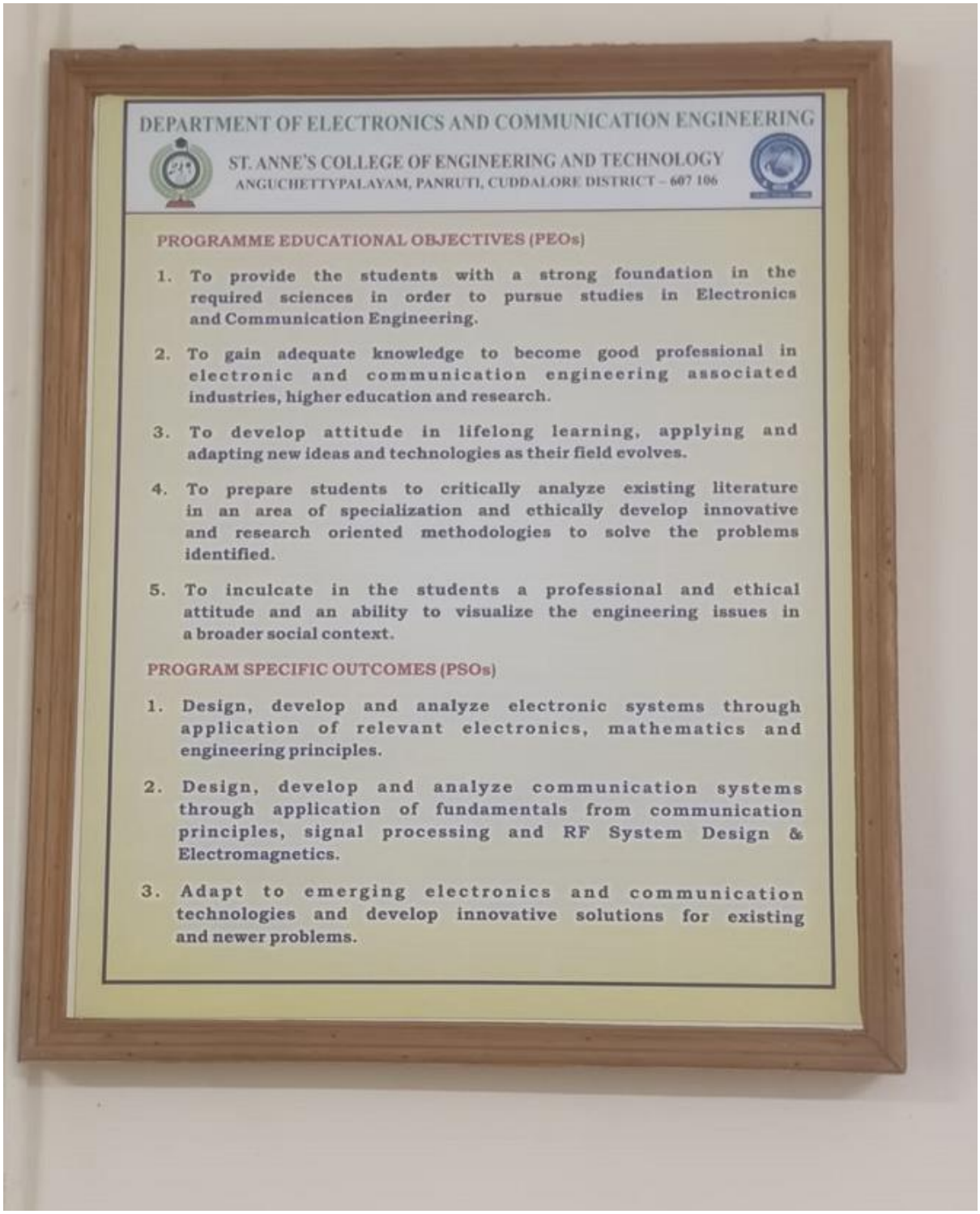
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ST. ANNE'S COLLEGE OF ENGINEERING AND TECHNOLOGY
ANGUCHETTYPALAYAM, PANRUTI, CUDDALORE DISTRICT – 607 106

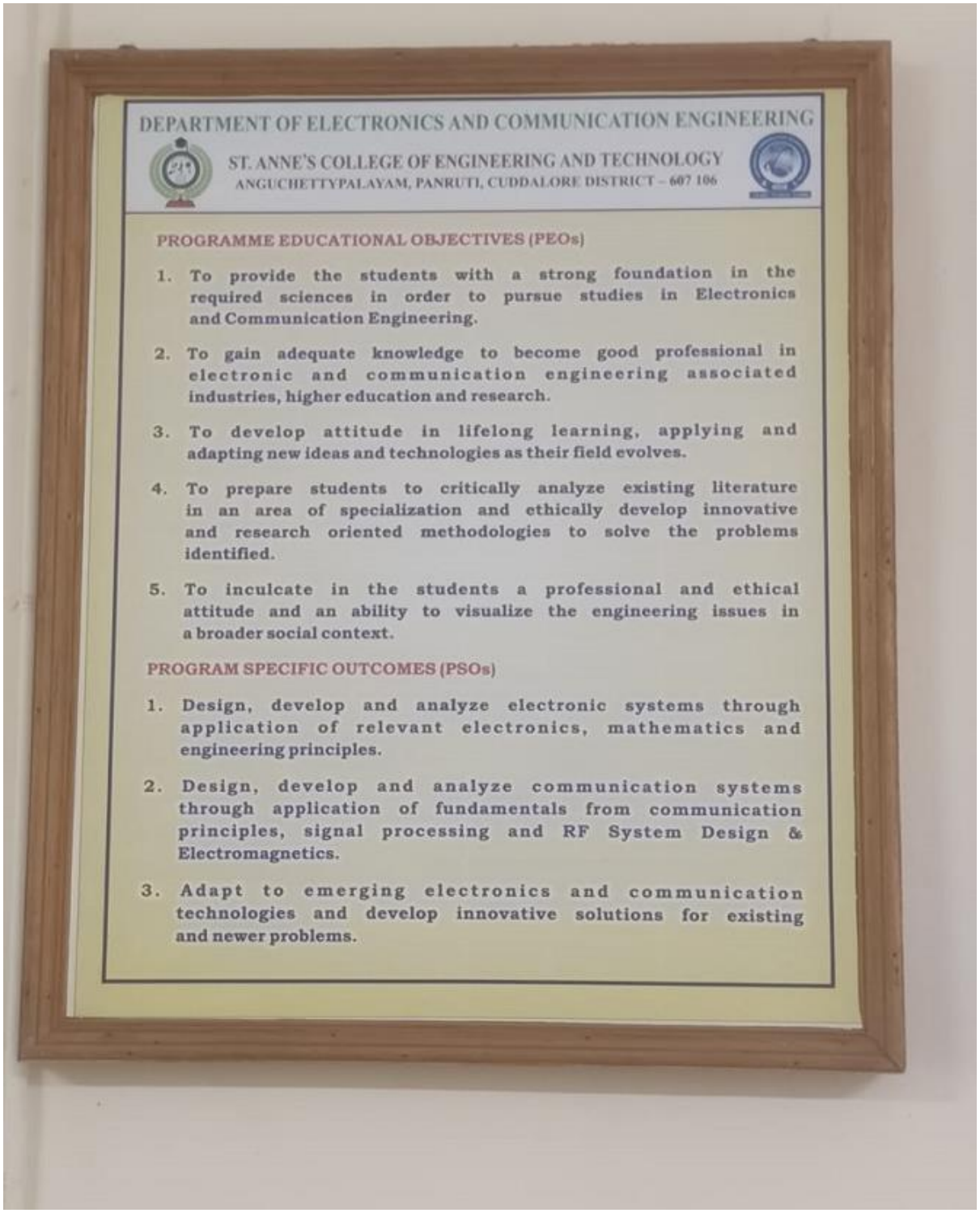
PROGRAMME OUTCOMES (POs)

PO	Graduate Attribute	Programme Outcome
01	Engineering knowledge	Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
02	Problem analysis	Identify, formulate, review research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
03	Design/ development of solutions	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
04	Conduct investigations of complex problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
05	Modern tool usage	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
06	The Engineer and society	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
07	Environment and sustainability	Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
08	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
09	Individual and team work	Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
10	Communication	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.
11	Project management and finance	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12	Life-long learning	Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME EDUCATIONAL OBJECTIVES DISPLAY PANEL



PROGRAMME SPECIFIC OUTCOMES DISPLAY PANEL



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PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

1. To provide the students with a strong foundation in the required sciences in order to pursue studies in Electronics and Communication Engineering.
2. To gain adequate knowledge to become good professional in electronic and communication engineering associated industries, higher education and research.
3. To develop attitude in lifelong learning, applying and adapting new ideas and technologies as their field evolves.
4. To prepare students to critically analyze existing literature in an area of specialization and ethically develop innovative and research oriented methodologies to solve the problems identified.
5. To inculcate in the students a professional and ethical attitude and an ability to visualize the engineering issues in a broader social context.

PROGRAM SPECIFIC OUTCOMES (PSOs)

1. Design, develop and analyze electronic systems through application of relevant electronics, mathematics and engineering principles.
2. Design, develop and analyze communication systems through application of fundamentals from communication principles, signal processing and RF System Design & Electromagnetics.
3. Adapt to emerging electronics and communication technologies and develop innovative solutions for existing and newer problems.

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CIA QUESTION PAPER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: CCS341 / DATA WAREHOUSING

Year: III **Semester: VI** **Period:FEB 2025-MAY 2025**

Date:07.04.2025 **Time:9.30 AM to 11.00 AM** **Max.:50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	Design data warehouse architecture for various problems	K1
CO2	Apply the OLAP technology	K1
CO3	Analysis the Partitioning strategy	K2
CO4	Criticallyanalyzethedifferentiationofvariousschemaforgivenproblem	K2
CO5	Frame roles of process manager & system manager	K2

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	Enlist the type of data warehouse architecture?	CO1	K1
2	List the four characteristics of Data Warehouse?	CO1	K1
3	Discuss about ETL?	CO1	K1
4	Identify OLAP and OLTP?	CO2	K2
5	What is transform?	CO2	K1

Part – B (2*13=26)

6	**a)** Illustrate the various data warehouse components. **(OR)** **b)** Explain the Morden data warehouse	CO1 CO1	K2 K2
7	**a)** discuss the various type of OLAP techniques **(OR)** **b)** Explain about data ware house design with approaches.	CO2 CO2	K2 K3

Part – C (1*14=14)

8	**a)** explain the data warehouse architecture and explain the types its significance **(OR)** **b)** explain about various OLAP operation in detail.	CO1 CO2	K2 K3

6.4.25
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for M. Rabathy 6/4/25
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – II

SUBJECT CODE / NAME: CCS341 / DATA WAREHOUSING

Year: III **Semester: VI** **Period: FEB 2025-MAY 2025**

Date: 16.05.2025 **Time: 9.30 AM to 11.00 AM** **Max.:50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	Design data warehouse architecture for various problems	K1
CO2	Apply the OLAP technology	K1
CO3	Analysis the Partitioning strategy	K2
CO4	Criticallyanalyzethedifferentiationofvariousschemaforgivenproblem	K2
CO5	Frame roles of process manager & system manager	K2

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	What are the types of partition in data warehouse?	CO3	K1
2	Define dimensions.	CO4	K1
3	Define Fact Table.	CO4	K1
4	What is the role of data warehouse manager	CO5	K2
5	What is backup and recovery in data warehouse?	CO5	K1

Part – B (2*13=26)

6	a) Discuss the role of meta data in data warehousing. **(OR)** b) Discuss about multidimensional database, data mart and data cube? Explain Schemasfor multi-dimensional database.	CO3 CO4	K2 K2
7	a) Discuss the various type of OLAP techniques. **(OR)** b) Describe in detail about working of system scheduling manager.	CO5 CO5	K2 K3

Part – C (1*14=14)

8	a) Construct a star schema for hospital management system. **(OR)** b) Summarize the role of load manager and warehouse manager.	CO4 CO5	K2 K3

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS INTERNAL ASSESSMENT – II

SUBJECT CODE / NAME: CS3691/Embedded Systems & IoT

Year: III **Semester: VI** **Period: 2024-2025**

Date: 14.05.2025 **Time: 09.30 AM to11.00AM** **Max.:50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	Explain the architecture of embedded processors.	K2
CO2	Write embedded C programs.	K3
CO3	Design simple embedded applications.	K4
CO4	Compare the communication models in IOT.	K2
CO5	Design IoT applications using Arduino/Raspberry Pi /open platform.	K3,K6

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	In what way Raspberry pi is better than arduino.	CO3	K2
2	Point out the challenges faced by Internet of Things.	CO3	K1
3	How does GPS Function?	CO4	K2
4	What is IoT Communication APIs?	CO4	K2
5	Give some examples for IOT in Healthcare	CO5	K3

Part – B (2*13=26)

6	a) Briefly explain the Technical Building blocks of IoT **(OR)** b) Explain the Sensors and sensor Node and interfacing using any Embedded target boards RaspberryPi with Python code	CO3 CO3	K2 K3
7	a) Explain IOT communication Protocols with neat diagram **(OR)** b) With Python code explain how signals are transmitted using GPIO in Raspberry pi.	CO4 CO4	K2 K2

Part – C (1*14=14)

8	a) With program explain the Development of Smart Agriculture using IoT. **(OR)** b) Write a program and explain the Development of Home Automation using IoT.	CO5 CO5	K6 K6

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: EE3401 / TRANSMISSION AND DISTRIBUTION

Year: III **Semester: IV** **Period: APRIL25-MAY25**

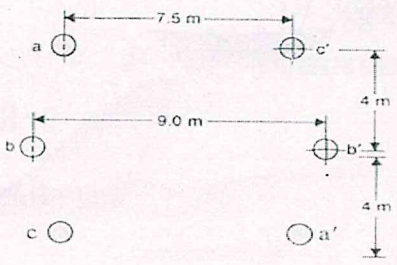
Date: 04 / 04 / 2024 **Time: 09.30 AM to 11.00 AM** **Max.: 50** Marks

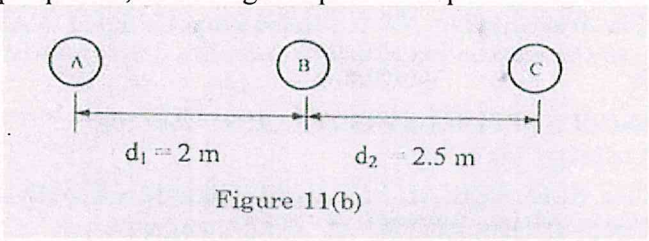
CO No.	Course Outcome	Knowledge Level
CO1	Understand the structure of power system, computation of transmission line parameters for different configurations	K2
CO2	Model the transmission lines to determine the line performance and to understand the impact of Ferranti effect and corona on line performance.	K6
CO3	Do Mechanical design of transmission lines, grounding and to understand about the insulators in transmission system	K4
CO4	Design the underground cables and understand the performance analysis of underground cable.	K4
CO5	Understand the modelling, performance analysis and modern trends in distribution system	K2

Part – A (5*2=10)

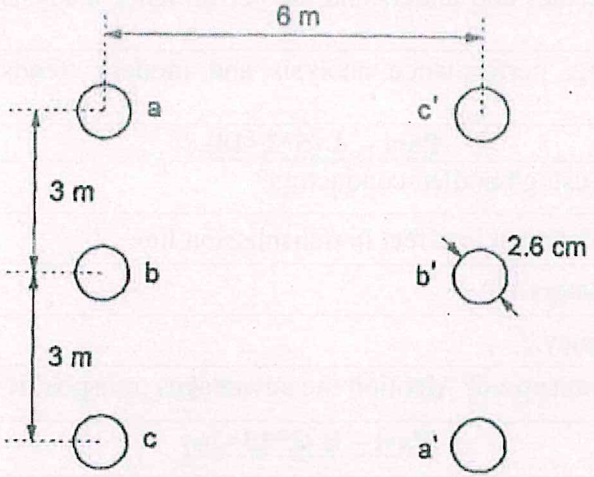
1	What are the advantage of using bundled conductors?	CO1	K1
2	List out the parameters affecting skin effect in transmission line	CO1	K1
3	What are the types of insulators?	CO2	K1
4	Define transmission efficiency.?	CO2	K1
5	Why transmission line is transposed? Mention the advantages transposition of conductors?	CO1	K1

Part – B (2*13=26)

06	**a)** Determine the inductance per km of a transposed double circuit 3-phase line shown in Figure 11(a)below. Each circuit of the line remains on its own side. The diameter of the conductor is 2.532cm.  **(OR)**	CO1	K3

	b) A 3-phase , 50Hz, 66 KV Overhead line conductors are placed in a horizontal plane as shown in figure in 11(b) CONDUCTOR DIAMETER is 1.25cm.if the line length is 100km, calculate : 1) capacitance per phase 2)charging current per phase , assuming complete transposition of the line  Figure 11(b)	**CO1**	**K3**
07	**a)** Explain the formation corona in transmission line. **(OR)** **b)** A 3 ϕ 16 Km long short transmission line having resistance 0.125Ω/Km and inductance of 1.39mH/Km is delivering 93.33MW at 0.8 lag. The receiving end voltage is 69KV. Determine sending end voltage, sending end current, real power, reactive power, voltage regulation and transmission efficiency	**CO2** **CO2**	**K3** **K3**

Part – C (1*14=14)

08	**a)**The spacing of a double circuit 3-phase overhead line is respresented in the figure shown below. The phase sequenceis ABC and the line is completely transposed. The conductor radius in 1.3cm .find the inductance per phase per kilometer 	**CO1**	**K3**

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: EE3037/ POWER SYSTEM TRANSIENTS

Year: IV **Semester: VII** **Period: 2024-2025**

Date: 26-09-2024 **Time: 02.45 PM to 04.15 PM** **Max.:50** Marks

Course Outcomes:

CO No	Course Outcomes	Knowledge Level
CO1	Explain the principles of transients and its concepts.	K2
CO2	Know the different types of switching transients and the way to draw the necessary equivalent circuit.	K2
CO3	Explain the concepts behind lighting and the way to protect the same.	K2
CO4	Compute the transient behavior in transmission line.	K2
CO5	Explain the behavior of the Circuit during switching and to learn the simulation tool.	K4

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	What is called transient in power system?	CO1	K2
2	Draw the double frequency transient's circuits with an example.	CO1	K2
3	Draw a simple circuit which can produce transients.	CO1	K2
4	What is current chopping?	CO2	K2
5	Define current suppression.	CO2	K2

Part – B (2*13=26)

6	**a)** What are the various types of power system transients? With neat diagrams, describe any two types of power system transient in detail.	CO1	K2
	(OR)		
	b) Briefly explain the importance of study of transients in planning.	CO1	K2
7	**a)** Draw an equivalent circuit for the resistance switching and explain the equivalent circuit for interrupting resistor current.	CO2	K2
	(OR)		
	b) (i) Distinguish between normal and abnormal switching transients in load switching.**(7)** (ii) Define ferro resonance condition.**(6)**	CO2	K2

Part – C (1*14=14)

8	**a)** Explain with neat diagram, RL circuit with an drive.	CO1	K2
	(OR)		
	b) What is capacitance switching? Explain in briefly the effect of re-strike and multiple re-strike. Give an illustration for multiple re-strike transients.	CO2	K2

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: CEC352/SATELLITE COMMUNICATION

Year: III **Semester: V** **Period: 2024-2025**

Date: 16.10.2024 **Time: 02.45 PM to 04.15 PM** **Max.: 50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	Identify the Satellite Orbits	K3
CO2	Analyze the Satellite Subsystems	K4
CO3	Evaluate the satellite Link Power Budget	K5
CO4	Identify Access Technology for Satellite	K3
CO5	Design Various Satellite Applications	K2

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	State Kepler's third law.	CO1	K1
2	Define Apogee and Perigee	CO1	K1
3	How the satellite position is affected? List a few factors?	CO1	K2
4	Draw the block diagram of antenna subsystem.	CO2	K2
5	What is meant by transponder?	CO2	K1

Part – B (2*13=26)

6	a) Derive the complete expression for Look Angles, along with intermediate angle in satellite communication. **(OR)** (b) i) Explain and illustrate the limits of visibility in satellite orbits. **(6)** ii) Write a brief notes about satellite launch vehicles. **(7)**	CO1 CO1	K3 K2
7	a) Examine how the attitude and orbit control system (AOCS) is achieved through spin stabilization system? Give necessary diagrams **(OR)** b) What are the three main systems for tracking satellites? How can tracking systems be affected? What are the main functions of TTC subsystem? Explain.	CO2 CO2	K2 K2

Part – C (1*14=14)

8	a) A ground station lies at latitude = 39.2906 degrees N and longitude = 280.2629 degrees E. A Geostationary satellite at radius r = 42164 km has a longitude of 280.2629 degrees E. Calculate the range and look angles (azimuth and elevation angles) to the satellite? **(OR)** b) Explain in detail about orbital elements and orbital perturbations with suitable example.	CO1 CO1	K3 K2

PREPARED BY 15/10/2024

VERIFIED BY 15/10/24

APPROVED BY 15/10/24

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: GE3791/HUMAN VALUES AND ETHICS

Year: IV **Semester: VII** **Period: 2024-2025**

Date: 28.09.2024 **Time: 02.45 PM to 4.15 PM** **Max.:50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life	K2
CO2	Practice democratic and scientific values in both their personal and professional life.	K3
CO3	Find rational solutions to social problems.	K4
CO4	Behave in an ethical manner in society	K2
CO5	Practice critical thinking and the pursuit of truth	K3

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	**What** are democratic Values?	CO1	K2
2	**Define** justice.	CO1	K1
3	**Brief** the human Values in Ethics.	CO1	K2
4	**List** the challenges of secular values.	CO2	K2
5	**Why** encouraging non-discriminatory practices is important?	CO2	K3

Part – B (2*13=26)

6	a) **Explain** in detail about democratic values. **(OR)** b) (i) **How** can citizens effectively participate in shaping their government? **(7)** (ii) **What** role does freedom of expression play in a healthy democracy? (6)	CO1 CO1	K3 K2
7	a) India is a Secular country. **Justify** how secularism is understood and applied in India. **(OR)** b) **Explain** in detail about disassociation of state from religion.	CO2 CO2	K2 K2

Part – C (1*14=14)

8	a) **Explain** about Indian Freedom movement. **(OR)** b) **Elaborate** the methods to avoid discrimination in workplace.	CO1 CO1	K3 K2

27.09.2024
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – I

SUBJECT CODE / NAME: CEC331 / 4G/5G COMMUNICATION NETWORKS

Year: III **Semester: VI** **Period: 2024-2025**

Date: 15.05.2025 **Time: 09.30 AM to 11.00 AM** **Max.: 50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	To understand the evolution of wireless networks	K2
CO2	To learn the concepts of 5G networks	K2
CO3	To comprehend the 5G architecture and protocols	K3
CO4	To understand the dynamic spectrum management	K2
CO5	To learn the security aspects in 5G networks	K2

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	List the features of 5G.	CO1	K1
2	Define Radio Access Network (RAN)	CO1	K1
3	Define Policy and Charging Rules Function (PCRF)	CO1	K1
4	What are the drivers for 5G?	CO2	K2
5	What is virtualized evolved packet core?	CO2	K1

Part – B (2*13=26)

6	a) Explain the Evolution of Radio access networks/ What is RAN? And its functions (13) **(OR)** (b) Discuss the Need for 5G and Discuss 4G versus 5G. (13)	CO1 CO1	K2 K2
7	a) Explain new Radio and Cloud Technologies. (13) **(OR)** b) What is NVF? Explain its need and architecture (13)	CO2 CO2	K2 K2

Part – C (1*14=14)

8	a) Explain various Networks evolution: 2G, 3G, and 4G. (14) **(OR)** b) Explain Next Generation Core (NG-Core) (14)	CO1 CO1	K2 K2

14/5/2025

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ST. ANNE'S COLLEGE OF ENGINEERING AND TECHNOLOGY

(Accredited by NAAC, Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai)

ANGUCHETTYPALAYAM, PANRUTI – 607 106.

DEPARTMENT OF MECHANICAL ENGINEERING

CONTINUOUS INTERNAL ASSESSMENT – II

SUBJECT CODE / NAME: ME3391 / ENGINEERIG THRMODYNAMICS

Year: II **Semester: III** **Period: 2024-2025**

Date: 19 /11 / 2024 **Time: 09.30 AM to 11.00 AM** **Max.: 50** Marks

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

COURSE OUTCOMES:

- Impart knowledge on the basics and application of zeroth and first law of thermodynamics.
- Impart knowledge on the second law of thermodynamics in analyzing the performance of thermal devices.
- Impart knowledge on availability and applications of second law of thermodynamics
- Teach the various properties of steam through steam tables and Mollier chart.
- Impart knowledge on the macroscopic properties of ideal and real gases.

PART - A (5 X 2 = 10 Marks)

1	What is available energy?	CO3	K2
2	Define the second law efficiency for a work producing device.	CO3	K2
3	Distinguish between ideal and real gas	CO4	K3
4	Define Mole and Mass fraction	CO4	K2
5	Define Dalton's and Amagat's Law.	CO5	K3

PART - B (2X13=26 Marks)

6	**a)** A reversible heat engine operates between two reservoirs at temperatures 700°C and 50°C. The engine drives a reversible refrigerator which operates between reservoirs at temperatures of 50°C and – 25°C. The heat transfer to the engine is 2500 kJ and the network output of the combined engine refrigerator plant is 400 kJ. (i) Determine the heat transfer to the refrigerant and the net heat transfer to the reservoir at 50°C; if efficiency of the 45% actual heat engine cycle.	CO3	K4
	(OR)		
	b) 50 kg of water at 313 K and enough ice at -5^{0}C is mixed adiabatically with water such that at the end of the process all the ice melts and water at 0^{0}Cis obtained. Find the mass of ice required and the entropy change of water and ice. Given Cp of water = 4.2 kJ/kg.K, Cp of ice = 2.1 kJ/kg.K and latent heat of ice = 335 kJ/kg.	CO3	K2

7	**a)** 3Kg of steam at 18 bar occupy a volume of 0.2550m^3. During a constant volume process. The heat rejected is 1320kJ. Determine final internal energy and find initial dryness and work done.	CO4	K4
	(OR)		
	b) A rigid tank of 0.03m ^{3} capacity contains wet vapour at 80 KPa. If the wet vapour mass is 12 kg. Calculate the heat added and the quality of the mixture when the pressure inside the tank reaches 7MPa.	CO4	K4

PART - C (1X14=14 Marks)

8	**a)** A mixture of ideal gases consists of 3 kg of nitrogen and 5 kg of carbon dioxide at a pressure of 300 kPa and temperature of 20°C, Find The mole fraction of each component The equivalent molecular weight of the mixture The equivalent gas constant of the mixture The partial pressure and partial volume	CO5	K4
	(OR)		
	b) Derive the Maxwell relation and explain their importance in thermodynamics.	CO5	K1

PREPARED BY **VERIFIED BY** **APPROVED BY**

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AIML)
CONTINUOUS INTERNAL ASSESSMENT – I
SUBJECT CODE / NAME: CS3351/Digital Principles and Computer Organization

Year: II **Semester: III** **Period: 2024-2025**

Date: 26.09.2024 **Time: 02.45 PM to 04.15 PM** **Max.: 50** Marks

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO1	To analyze and design combinational circuits	K3
CO2	To analyze and design sequential circuits	K4

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	Write down the sum and carry expressions for half adder?	CO1	K1
2	List the four possible elementary operations simple binary addition consist of.	CO1	K2
3	What is a multiplexer?	CO1	K1
4	Give the excitation table for JK Flip Flop?	CO2	K2
5	Difference between Latches and Flip Flop?	CO2	K1

Part – B (2*13=26)

6	**a)** Present the graphic symbol, algebraic expression and truth table for the following digital logic gates: AND, OR, Inverter, NAND, NOR, Exclusive OR and Exclusive NOR? **(13)** **(OR)** (b) (i) How will you design full adders using two half adders? **(7)** (ii) Simplify the function using multiplexer f=£(0,1,3,4,8,9,15) **(6)**	CO1 CO1	K2 K2
7	**a)** Describe SR Flip flop, JK Flip Flop and D Flip flop with the help of block diagram, characteristic table and excitation table. **(13)** **(OR)** **b)** Give the analysis and design of clocked sequential circuits? **(13)**	CO2 CO2	K3 K4

Part – C (1*14=14)

8	**a)** Using K-Map, find the sum of products and products of sums for the given function $F=\sum_m(0,2,6,7,8,10,12,14,15)$ **(14)** **(OR)** **b)** Explain binary to octal decoder and octal to binary encoder with the help of circuit diagrams? **(14)**	CO1 CO1	K3 K3

S. Dr 25/9/2024
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AIML)
CONTINUOUS INTERNAL ASSESSMENT – II
SUBJECT CODE / NAME: CS3351/Digital Principles and Computer Organization

Year: II **Semester: III** **Period: 2024-2025**

Date: 15.11.2024 **Time: 09.30 PM to 11.00 PM** **Max.: 50 Marks**

Course Outcomes:

CO No	Course Outcome	Knowledge Level
CO3	State the fundamentals of computer systems and analyze the execution of an instruction	K2
CO4	Analyze different types of control design and identify hazards	K4

BLOOM'S TAXONOMY: K-Level [K1-Remember, K2-Understand, K3-Apply, K4- Analyze, K5-Evaluate, K6-Create]

Part – A (5*2=10)

Qn. No	Questions	Course Outcome	Blooms Taxonomy
1	Draw the stock diagram of Von Neumann Architecture?	CO3	K1
2	Outline Instruction cycle with diagram?	CO3	K2
3	What is the difference between register addressing mode and register indirect addressing mode?	CO3	K2
4	Differentiate: Hardwired Control and Micro-programmed Control.	CO4	K2
5	What is Program Counter?	CO4	K1

Part – B (2*13=26)

6	a) Explain in detail about functional units in digital computer **(13)** **(OR)** (b) Outline Von Neumann Architecture with a diagram. **(13)**	CO1 CO1	K2 K2
7	**a)** Depict how instruction is being fetched and executed through the data path in the processor? **(13)** **(OR)** **b)** What are pipeline hazards? Outline the types of pipeline hazards. **(13)**	CO2 CO2	K2 K4

Part – C (1*14=14)

8	**a)** What is an addressing mode? Outline the types of addressing mode with an example. **(14)** **(OR)** **b)** Explain in detail about Instruction Set Architecture (ISA) **(14)**	CO1 CO1	K2 K2

PREPARED BY 12/11/2024

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APPROVED BY 12/11/24

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