Lagdu Singh Charitable Trust's (Regd.)
THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
Autonomous College Affiliated to University of Mumbai
Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra(GoM)
Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y 2019-20
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Estd. 2001

IN-SEMESTER EXAMINATION-I

S.E. (Semester - IV)

SUBJECT – Computer Networks

Branch: Information Technology
Div.: ALL
Duration: 60 Minutes

Date:11/03/2025
Timing: 2:00 TO 3:00 PM
Maximum Marks: 20

Instructions –

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5. Figures to the right indicate full marks.

ISE-1 March 2024

Q.1		Answer any 5 of the following questions	Marks	Course Outcomes	Learning Levels
	a.	Map IP address , MAC address and Port address with layers of OSI model	2	1	U
	b.	Define the term multiplexing and spreading.	2	1	R
	c.	List and draw the various topologies used in computer network system.	2	1	U
	d.	Enlist and define wireless transmission media.	2	2	R
	e.	Why infrared signal is used for line of sight propagation.	2	2	U
	f.	Find hamming distance between two code words and also find their hamming weights Codeword 1: 1 1 0 1 0 1 0 0 , Codeword 2: 0 1 0 1 0 0 1 0	2	3	A
	g.	Given below is the output after byte-stuffing: FLAG A B ESC ESC C ESC ESC ESC FLAG ESC FLAG D F FLAG. What is the original data?	2	3	A
Q.2	a.	Compare OSI reference model with TCP IP model	5	2	U
		OR			
	b.	Explain the construction of Coaxial cable with suitable diagram. Also list its application.	5	2	U
Q.3	a.	Explain Go-back–N ARQ protocol with the help of example	5	3	A
		OR			
	b.	Generate the CRC code for the data word of 110010101.The Divisor is 10101.	5	3	A

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IN-SEMESTER EXAMINATION-II

S.E. (Semester-IV)

SUBJECT – Computer Networks

Branch: Information Technology | **Date:16/04/2025**

Div.: ALL | **Timing: 04:00 TO 05:00 PM**

Duration: 60 Minutes | **Maximum Marks: 20**

Instructions –

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5. Figures to the right indicate full marks.

Q.1		Answer any 5 of the following questions	Marks	Course Outcomes	Learning Levels
	a.	Find the class of each address: a. 14.12.14.80 b. 160.14.55.21 c. 210.22.110.80 d. 235.41.15.120	2	4	A
	b.	Write about BOOTP in brief.	2	4	U
	c.	Draw UDP Header Format.	2	5	U
	d.	List out various applications of UDP.	2	5	U
	e.	Write the function of SMTP?	2	6	R
	f.	What is the purpose of HTML?	2	6	R
	g.	Write about Secure shell in brief with an application.	2	6	U
Q.2	a.	Explain Special Addresses in IP addressing.	5	4	U
		OR			
	b.	Mention the features of UDP connectionless perspective with two real-time examples.	5	4	U
Q.3	a.	Draw and explain Token bucket algorithm with neat diagram.	5	5	A
		OR			
	b.	Explain Data Transmission in TCP using Piggybacking and Pure Aloha.	5	5	U

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END SEMESTER EXAMINATION, MAY 2025
S.E. SEMESTER IV (CBCGS-HME 2023)

Branch:	**Information Technology (IT)**	**Q.P. Code:**	**E466RM251-1**
Subject:	**Computer Networks**	**Duration:**	**2 hours**
Subject Code:	**PCC-IT 402**	**Max. Marks:**	**60**

Instructions: 1. All sections are compulsory
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary and state the assumptions clearly.

Section-I **Short Answer Questions (Answer any 05 questions out of 06)** **(10 Marks)**
(Fundamental, Core Types)

Q. No.		Marks	CO	RBT Level	PI
ISE 2024 & ISE 2025 1	Map IP address, MAC address and Port address with layers of OSI model.	2	1	U	4.1.2
2	Explain light propagation in fiber.	2	2	U	1.3.1
ESE 3	Define Single bit error and Burst Error.	2	3	U	1.1.1
4	Mention the operation of RARP.	2	4	U	1.3.1
ISE 2024 & ESE 5	Define the Transport layer in the OSI model and explain its primary function.	2	5	R	1.3.1
ISE 2024 6	Discuss the three main divisions of the domain name space.	2	6	R	1.3.1

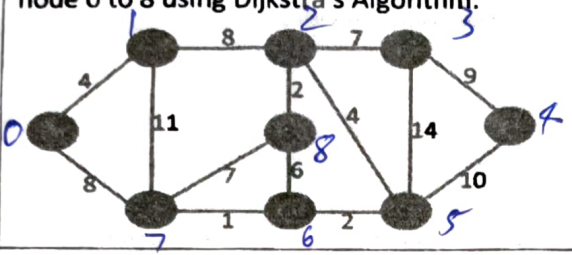
Section-II **Descriptive Answer Questions (Answer any 04 out of 06)** **(20 Marks)**
(Descriptive, Comprehension Types)

1	Explain in brief operation of OSI layers, indicating the protocol & the networking devices associated with corresponding layers.	5	1	U	1.3.1
ISE 2024 2	Draw and explain propagation modes in optical fiber.	5	2	U	1.3.1
ISE-1 3	Explain Go-back–N ARQ protocol with the help of example.	5	3	A	1.3.1
4	Compare Distance Vector Routing and Link State Routing protocol.	5	4	AN	1.3.1
ISE 2024 5	Explain Connection Establishment and Connection Termination in TCP.	5	5	U	1.3.1
ESE 6	Explain the role of HTTP in communication between a web browser and a web server.	5	6	AN	1.3.1

Section-III **Long Answer Question (Answer any 03 out of 05)** **(30 Marks)**
(Application, Analytical, Evaluation, Design Type)

1	Compare 1G, 2G, 3G, 4G and 5G mobile communication systems.	10	2	AN	3.1.1
2	Explain with an example about use of Error detection & correction techniques.	10	3	U	1.3.1

ESE

3	For the network shown in the figure show the computation at node 0 to 8 using Dijkstra's Algorithm. 	10	4	A	2.4.1
4	Describe the mechanism of congestion control in TCP. State the mechanism to resolve the congestion control with justified mechanism for high-speed networks.	10	5	U	1.3.1
5	Compare recursive and iterative resolution in DNS with neat diagram.	10	6	AN	3.1.1