

Total No. of Questions: 4

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PRN No.

PAPER CODE

U124-355

May 2024 (ENDSEM) EXAM

F.Y.B. TECH. (SEMESTER - II)

COURSE NAME: Data Communication and
Computer Networks

Branch: CSE (AI & ML)

COURSE CODE: CM12235

(PATTERN 2023)

Time: [1Hr. 30 Min]

[Max. Marks: 40]

(*) Instructions to candidates:

- 1) Figures to the right indicate full marks.
- 2) Use of scientific calculator is allowed
- 3) Use suitable data wherever required
- 4) All questions are compulsory. Solve any one sub question from each Question 1 and 2 and any three sub questions each from Questions 3 and 4.

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Discuss the term Internet. Differentiate between LAN, MAN and WAN.	[5]	CO 1	UNDERSTAND
	b) Compare the circuit-switched network and packet-switched network.	[5]	CO 1	UNDERSTAND
Q2	a) Examine the process of rule establishment during communication. How rules or protocols ensure the message to be successfully delivered and understood at destination.	[5]	CO 2	REMEMBER
	b) Describe fiber optic cabling and its main advantages over other media.	[5]	CO 2	REMEMBER
Q.3	a) For given IPv4 address 10.10.100.0 /23 Calculate: I. Network Address and Broadcast Address. II. How many Total Host Addresses possible? III. If we make 8 sub-networks then what will be each subnetwork's IP address ranges? IV. What will be first usable and last usable IP address in 5 th Subnet?	[5]	CO 3	APPLY
	b) Subnet the Class C IP Address 200.10.2.0 so that you have 30 subnets. I. What is the subnet mask for the maximum number of hosts? II. How many hosts can each subnet have? III. What is the IP address of host 3 on subnet 2?	[5]	CO 3	APPLY
	c) Subnet the Class C IP Address 210.1.1.0 So that you have 10 subnets each with a maximum of 12 hosts on each subnet. List the Address of host 1 on subnet 0,1,2,3,10.	[5]	CO 3	APPLY
	d) A bit stream 1101011011 is transmitted using the			

	standard CRC method. The generator polynomial is . What is the actual bit string transmitted?	[5]	CO 3	APPLY
Q.4	a) Justify the use of TCP for Internet Banking and use of UDP for Live streaming of the match.	[5]	CO 4	APPLY
	b) Justify why UDP is known as fast protocol.	[5]	CO 4	APPLY
	c) If a user 1 sends an email to user 2 then which application layer protocols will work in sequence?	[5]	CO 4	APPLY
	d) If a user is watching live streaming of the match which protocols will work in sequence ?	[5]	CO 4	APPLY