R22

Code No: R22A0512

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June 2025

Computer Networks

(IT, CSE-CS,CSE-AIML, CSE-DS, CSE-IOT & B.Tech-AIML)

Roll No										

Time: 3 hours **Max. Marks: 60**

Note: This question paper contains two parts A and B
Part A is compulsory which carries 10 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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			BCLL	CO(s)	Marks
		PART-A (10 Marks)			
		(Write all answers of this part at one place)			
1	A	Describe the purpose of the IP layer in the TCP/IP model.	**L2**	**CO-I**	**[1M]**
	B	How many layers are in the OSI model?	**L1**	**CO-I**	**[1M]**
	C	What does CSMA stand for?		**CO-II**	**[1M]**
	D	What is the main purpose of collision avoidance in CSMA/CA?	**L1**	**CO-II**	**[1M]**
	E	What does the optimality principle state in network routing?	**L1**	**CO-III**	**[1M]**
	F	What is the count to infinity problem?	**L1**	**CO-III**	**[1M]**
	G	What type of service does TCP provide to applications?	**L1**	**CO-IV**	**[1M]**
	H	What is the process called when a TCP connection is closed?	**L1**	**CO-IV**	**[1M]**
	I	What does WWW stand for?	**L1**	**CO-V**	**[1M]**
	J	Name an application layer service used for file transfer.	**L1**	**CO-V**	**[1M]**
		PART-B (50 Marks)			
		SECTION-I			
2		Compare and contrast different types of networks (LAN, MAN, WAN) in terms of structure, range, and practical applications. Illustrate your explanation with diagrams.	**L2**	**CO-I**	**[10M]**
		OR			
3	A	Explain one key difference between the OSI and TCP/IP models.	**L2**	**CO-I**	**[5M]**
	B	Compare the different types of guided transmission media	**L2**	**CO-I**	**[5M]**
		SECTION-II			
4		Discuss the major design issues of the data link layer.	**L2**	**CO-II**	**[10M]**
		OR			
5		Discuss about elementary data link layer protocols.	**L2**	**CO-II**	**[10M]**

	SECTION-III			
6	Analyze the working of Distance Vector Routing by taking one example.	**L4**	**CO-III**	**[10M]**
	OR			
7	Explain about IPV4 subnetting.	**L2**	**CO-III**	**[10M]**
	SECTION-IV			
8	Discuss the various services provided by the transport layer to the upper layers in a network. How do these services facilitate reliable data communication.	**L2**	**CO-IV**	**[10M]**
	OR			
9	Explain the structure and significance of the TCP segment header in detail.	**L2**	**CO-IV**	**[10M]**
	SECTION-V			
10	Discuss the role of the application layer in the OSI model and explain how it interacts with other layers to provide services to end-users.	**L2**	**CO-V**	**[10M]**
	OR			
11	Explain the structure and functioning of the World Wide Web (WWW). How does the application layer facilitate access to the web using protocols like HTTP?	**L2**	**CO-V**	**[10M]**

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