	Register Number	9	1	C	S	R	0	1	4

VELALAR COLLEGE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Continuous Assessment Test - I				QP Set	2	Regulations - 2018 v4	
Programme	B.E CSE & B.Tech-IT	Semester:	5	Max. Marks:	50	Duration	1.5 Hrs
Course Code & Title:	21CST51 & Computer Networks						
Class: 21CS5A&B 21IT5A&B	Date: 04.09.2023(FN)			Time: 11.00 am to 12.30 pm			
Knowledge Levels (KL)	K1 – Remembering		K3 – Applying		K5 – Evaluating		
	K2 - Understanding		K4 – Analyzing		K6 – Creating		

Part A – 10x2 = 20 Marks

1.	List three criteria necessary for an effective network.	CO1	K1
2.	Differentiate internet from intranet.	CO1	K2
3.	Name the network topology that requires central controller. Justify your answer.	CO1	K1
4.	Summarize how OSI and TCP/IP models are differing from each other.	CO1	K2
5.	Define fiber optic cable with real time example.	CO1	K2
6.	Describe the parts of frame with its types.	CO2	K1
7.	Identify the hexadecimal equivalent of the following Ethernet address. 01011010 00010001 11010010 00000101 10010101 10001000	CO2	K3
8.	An Ethernet MAC sub layer receives 1510 bytes of data from the upper layer. Can the data be encapsulated in one frame? If not, calculate how many frames need to be send? What is the size of the data in each frame?	CO2	K3
9.	Write about the concept of IEEE standard 802.5.	CO2	K2
10.	Illustrate Exposed terminal problem with neat diagram and state which algorithm is used to solve this problem.	CO2	K2

Part B – 15x2 = 30 Marks

No.			Question	Marks	CO	KL
11.	(a)	(i)	Demonstrate the OSI network architecture and explain the functions of each layer with neat diagram.	10	CO1	K2
		(ii)	Define addressing and mention its types.	5	CO1	K2
			OR			
	(b)	(i)	Explain in detail about TCP/IP protocol suite.	8	CO1	K2
		(ii)	Discuss different types of transmission media with examples.	7	CO1	K2
12.	(a)	(i)	Illustrate the steps involved in CRC computation and compute the following: A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is x^4+x+1. What is the actual bit string will be transmitted?	8	CO2	K3
		(ii)	Explain sliding window protocol? Mention its strategy with their types.	7	CO2	K2
			OR			
	(b)	(i)	Explain the error detection methods with an example.	5	CO2	K2
		(ii)	Explain the classification of MAC protocols and discuss about its types with example.	10	CO2	K2

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Continuous Assessment Test – II				QP Set	2	Regulations-2018 v4	
Programme	B.Tech-IT & B.E(CSE)	Semester:	5	Max. Marks:	50	Duration	1.5 Hrs
Course Code & Title:	21CST51 & Computer Networks						
Class: 21CS5A&B 21IT5A&B	Date:16.10.23(FN)			Time: 11.00 am – 12.30 pm			

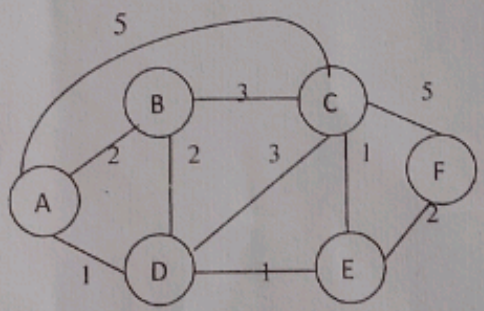
Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 – Evaluating
	K2 - Understanding	K4 – Analysing	K6 – Creating

Part A – 10x2 = 20 Marks

1.	What are the responsibilities of network layer? List out the protocols associated with it.	CO3	K1
2.	What are the advantages of packet switching over circuit switching?	CO3	K2
3.	Differentiate IPv4 and IPv6.	CO3	K2
4.	Find the class of each address. a) 11000001 10000011 00011011 11111111 b) 252.5.15.111	CO3	K3
5.	A router outside the organization receives a packet with destination address 190.240.7.91/16. Show how it finds the network address to route the packet.	CO3	K3
6.	List out the services provided by the transport layer.	CO4	K1
7.	Define congestion. List out the congestion control techniques.	CO4	K1
8.	What do you mean by slow start in TCP congestion control?	CO4	K2
9.	What are the differences between TCP and UDP?	CO4	K2
10.	Mention the techniques used to provide Quality of Service.	CO4	K1

Part B – 2x15 = 30 Marks

No.		Questions	Marks	CO	KL
11.	(a)	Explain about the various IPv4 addressing methods.	15	CO3	K2
		OR			
	(b)	Consider the network given below. Compute the shortest path from A to all other nodes in link state routing algorithm and also update the forwarding table of node A.	15	CO3	K2



12.	(a)	Explain in detail about the congestion control and congestion avoidance techniques used in TCP.	15	CO4	K2
		OR			
	(b)	Analyze the scheduling and traffic shaping methods to improve QoS with respect to delay and throughput.	15	CO4	K2

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		Register Number	2	1	C	S	R	0	1	4	

VELALAR COLLEGE OF ENGINEERING AND TECHNOLOGY

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Continuous Assessment Test – III				QP Set	2	Regulations-2018 v4	
Programme	B.Tech-IT & B.E(CSE)	Semester:	5	Max. Marks:	50	Duration	1.5 Hrs
Course Code & Title:	21CST51 & Computer Networks						
Class: 21CS5A&B 21IT5A&B	Date:17.11.23(FN)			Time: 11.00 am – 12.30 pm			
Knowledge Levels (KL)	K1 – Remembering		K3 – Applying		K5 – Evaluating		
	K2 - Understanding		K4 – Analysing		K6 – Creating		

Part A – 10x2 = 20 Marks

1.	What is the primary purpose of the DNS protocol, and why is it essential for the functioning of the internet?	K1	CO5
2.	List the role of a root DNS server in the DNS hierarchy. How does it help to resolve domain names?	K1	CO5
3.	How does MIME enhance SMTP?	K2	CO5
4.	What are the differences between HTTP and HTTPs?	K1	CO5
5.	Which application layer protocol is used by network management frameworks to manage and monitor network devices?	K1	CO5
6.	What are the responsibilities of Application Layer?.	K1	CO5
7.	What is the purpose of inverse domain?	K2	CO5
8.	Mention the types of HTTP messages.	K1	CO5
9.	Interpret the design of a MIB for a simple SNMP?	K2	CO5
10.	Outline the purpose of FTP?	K2	CO5

Part B – 2x15 = 30 Marks

No.			Questions	Marks	CO	KL
11.	(a)	(i)	Describe the steps involved in the DNS resolution process when a user enters a domain name in a web browser.	15	K2	CO5
			OR			
	(b)	(i)	Examine the message transfer using Simple Mail Transfer Protocol.	8	K3	CO5
		(ii)	Write short notes on : (i) IMAP (ii) MIME	7	K2	CO5
12.	(a)	(i)	What is the significance of HTTP methods GET and POST.	5	K2	CO5
		(ii)	Consider you are the owner of an e-commerce website, and during a sale event, customers complain about not being able to add items to their shopping carts. What HTTP-related factors could be contributing to this issue, and how would you address it to ensure smooth shopping experiences?	10	K3	CO5
			OR			
	(b)		Summarize the elements of network management and explain the operation of SNMP protocol in detail.	15	K2	CO5