CO-SEM IV - CN

D Y PATIL UNIVERSITY — RAM RAO ADIK INSTITUTE OF TECHNOLOGY

RAMRAO ADIK INSTITUTE OF TECHNOLOGY, NERUL

(D Y Patil Deemed to be University)

25 MAY 2022

Program: B.Tech
End Semester Examination: B.Tech. Semester IV
Course Code: CEC 404 **Course Name: Computer Networks**
Time: 2 hour
Max. Marks: 60

Instructions: 1. All three questions are compulsory

Que. No.	Question	Max. Marks	CO	BT
Q1	Solve any **Four**			
i)	What are the five layers in the Internet protocol stack? What are the principle responsibilities of each of these layers?	5	**CO1**	**BT2**
ii)	Explain how File Transfer Protocol (FTP) clients and servers are configured? Discuss any five FTP commands.	5	**CO2**	**BT2**
iii)	How does the transport layer manage to perform application multiplexing and demultiplexing?	5	**CO3**	**BT2**
iv)	Explain the classes of IP address. Identify the class of following IP address along with their default subnet masks. 1. 227.56.83.2 2. 129.14.12.4 3. 114.22.43.23	5	**CO4**	**BT3**
v)	What is Address Resolution Protocol (ARP)? Why is an ARP query sent within a broadcast frame?	5	**CO5**	**BT4**
vi)	Explain various transmission medium in brief.	5	**CO6**	**BT2**

Que. No.	Question	Max. Marks	CO	BT
Q2 A	Solve any **Two**			
i)	Differentiate between OSI Reference model and TCP/IP Reference model.	5	**CO1**	**BT4**
ii)	What is Internet Control Message Protocol (ICMP)? Explain ICMP header format with diagram.	5	**CO4**	**BT2**
iii)	Encode a binary word 11001 into the even parity Hamming code.	5	**CO5**	**BT6**
iv)	Explain packet switching, how it is different from circuit switching?	5	**CO6**	**BT4**
Q 2 B	Solve any **One**			
i)	Describe threshold condition in TCP congestion. Explain congestion control policies used in TCP.	10	**CO3**	**BT2**

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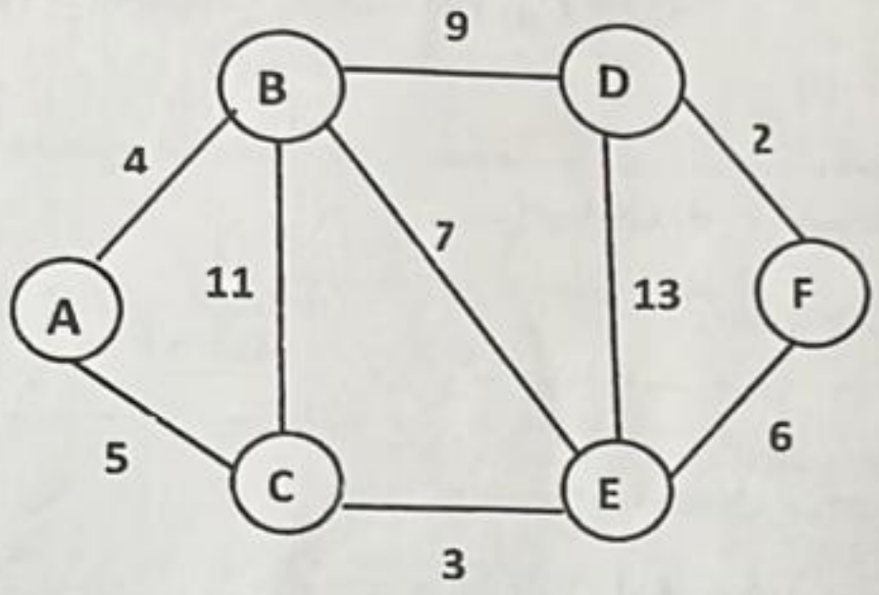
ii)	Define routing algorithm. Use Dijkstra's algorithm to find the shortest path from node A to every node. 	10	CO4	BT3

Que. No.	Question	Max. Marks	CO	BT
Q3	Solve any **Two**			
i)	Explain Hypertext Transport Protocol (HTTP) working with request and response message formats.	10	**CO2**	**BT2**
ii)	Why User Datagram Protocol (UDP) is unreliable protocol? Explain the different fields in the header format of UDP.	10	**CO3**	**BT2**
iii)	Classify the various multiple access methods and Explain how collision is handled by CSMA/CD?	10	**CO5**	**BT4**

Course Outcomes (CO) -Learner will be able to:

CO1: Explore the fundamental concepts computer networking and compare ISO – OSI model with TCP/IP model.

CO2: Evaluate and apply applications layer protocols.

CO3: Demonstrate the knowledge of Transport layer functions and protocols.

CO4: Design the network using IP addressing and sub netting / super netting schemes and analyze various routing algorithms and protocols at network layer.

CO5: Analyze Data Link layer protocols and congestion control algorithms.

CO6: Analyze transmission media & explore

BT1- Remembering, BT2- Understanding, BT3- Applying, BT4- Analyzing, BT5- Evaluating, BT6- Creating