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APR-MAY2022

B. E. (Sixth Semester) Examination, ~~2020~~

(New Scheme)

(CSE Branch)

COMPUTER NETWORKS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : *All question of the paper are compulsory. Part (a) of every question in compulsory. Solve any two questions from remaining (b), (c) and (d) portion of the question paper.*

Unit - I

1. (a) How does information get passed from one OSI layers to the next? 2

(b) Define the topology and its categories. Write advantage & disadvantage of each topology. 7

(c) Explain the architecture of ISDN and ISDN protocol reference model. 7

(d) Discuss in brief in the Novell Netware Network and also explain evolution of ARP. 7

Unit - II

2. (a) What are the main goal of Network design? 2

(b) Explain digital logic implementation of CRC. Generate the CRC code for data word of 110101011 and the generator polynomial is $x^4 + x + 1$. What are the limitation of CRC? 7

(c) In stop and wait ARQ. What happens if a NAK is lost in transit? Why is there no need for NAK; to be numbered? Which sliding window ARQ is more popular? Why? 7

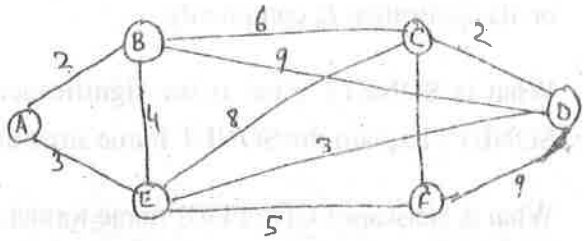
(d) Explain how token ring is a deterministic or controlled access technique to LAN. What is the purpose monitor station? And also explain token ring frame format. 7

Unit - III

3. (a) What is a Network service models? 2

(b) Explain forwarding & its technique with neat diagram. 7

(c) Explain Dijkstra algorithm with the help of example. Consider the subnet graph shown in figure. Create the routing table for router A based on the shortest path routing algorithm. 7



(d) Explain the IP security & its Header. 7

Unit - IV

4. (a) Write the function of transport layer. 2

(b) What is congestion? Explain causing of congestion and any one method to control the congestion. 7

(c) What is traffic shaping? A computer on a 6-mbps network is regulated by a token bucket. The token bucket is filled at a rate of 1 mbps. It is initially filled to capacity with 8 megabits. How long can the computer transmit at the full 6 mbps? 7

(d) Explain the TCP security, SSL services & security parameter. 7

Unit - V

5. (a) How HTTP is related to SMTP protocol? Describe. 2

(b) Give procedure of transposition cipher. Comment on its application & complexity. 7

(c) What is SONET? What is the significance of SONET? Explain the SONET frame structure. 7

(d) What is Netscape? Give FDDI frame format and explain all its parameter? 7