

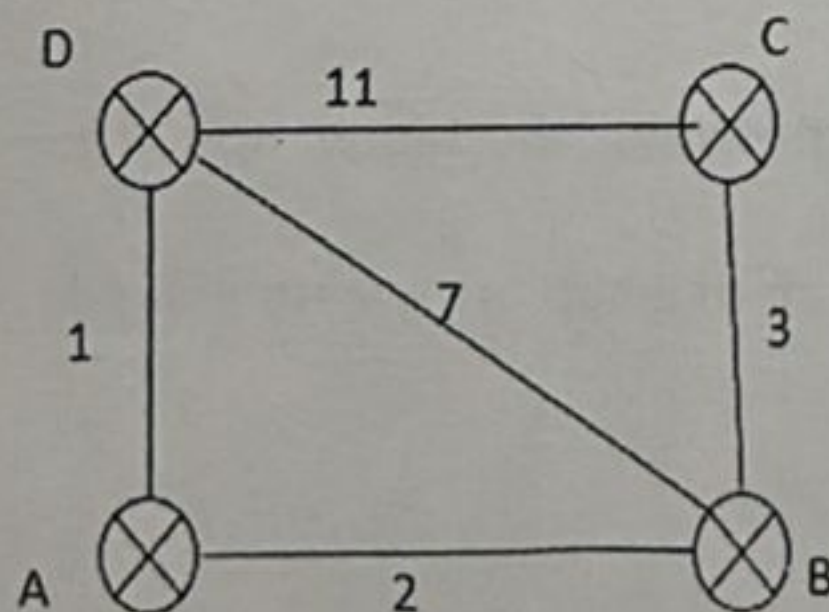


- KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE
- DON'T WRITE ANYTHING ON THE QUESTION PAPER

 Answer ALL Questions

(10 X 10 = 100 Marks)

1. Identify commonly used standards at each layer in data communication that are needed for interoperability of networking technologies and processes. State specific two types of standards with suitable example.
2. Consider all links in the network use TDM with 24 slots and data rate of 1.536 Mbps. Assume that host 'A' takes 500 msec to establish an end to end circuit with host 'B' before begin to transmit the file. If the file is 512 kilobytes, then how much time will it take to send the file from host A to host B?
3. Mr. A wants to send message "hello" to Mr.B Identify the ASCII value of h,e,l,l,o and consider them as Frame-1, Frame-2, Frame-3, Frame-4, and Frame-5. Using Check sum concept identify if the message is transmitted successfully or not. At both sender and receiver end.
4. A slotted ALOHA network transmits 200-bit frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces
 - a) 1000 frames per second
 - b) 500 frames per second
 - c) 250 frames per second.
5. In an IPv4 packet, the value of HLEN is 5, and the value of the total length field is 0x0028. How many bytes of data are being carried by this packet?
 Here is a IP header from an IP packet received at destination :
 4500 003c 1c46 4000 4006 b1e6 ac10 0a63 ac10 0a0c
 Calculate IP header checksum to check the integrity of IP header.
6. State the advantages and Disadvantages of Link state Routing?



Explain link state routing algorithm for the diagram given above.-

7/ Identify the next exponential growth of the segments and acknowledge for the following condition:

If the initial congestion window size is 1 segment, and the first segment is successfully acknowledged, the congestion window size becomes 2 segments. If the next transmission is also acknowledged, the congestion window size doubles to 4 segments what will be next segment?

8/ Let us consider that you want to open a page "home.html" from the site "yoursite.com". For the request given below

GET/home.html HTTP/1.1

Host: www.yoursite.com

State the response the web server will provide and write the corresponding responses.

9.a) Given the data word to be sent – 100100 and generator polynomial $x^3 + x^2 + 1$ find the CRC at the sender end and receiver end and justify your answer.

OR

9.b) Rovenza communications International (RCI) is an online corporate training provider company for IT related courses. You as a network expert have to study the physical location of various blocks and the number of computers installed in the planning phase. Provide the best possible answers for the queries

- Suggest the most appropriate block, where RCI should plan to install the server.
- Suggest the most appropriate topology is used to connect.
- All 3 blocks for efficient communication.
- Which type of network out of the following is formed

*LAN

*MAN

*WAN

v) Which wireless channel must be opted

- Infrared
- Microwave
- satellite

10.a) Change the following IP addresses from binary notation to hexadecimal notation.

i) 10000001 00001011 00001011 11101111

ii) Explain two dimensional parity checking concept with suitable example.

OR

10.b) i) Given the network address 220.34.76.0, find the class, the block, and the range of the addresses.

ii) Given an array of integers, find the maximum sum of a sub array with a fixed window size using sliding window concept.

⇔⇔⇔ BG/K/TX ⇔⇔⇔