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Module-3

- 5 a. Ten sources, six with a bit rate of 200 Kbps and four with a bit rate of 400 Kbps are to be combined using multilevel TDM with no synchronizing bits. Answer the following questions about the final stage of the multiplexing :
- i) What is the size of a frame in bits? ii) What is frame rate? (08 Marks)
 - iii) What is the duration of a frame? iv) What is the data rate? (06 Marks)
- b. List Spread Spectrum techniques. Explain the technique which is based on hopping frequencies (carrier). (06 Marks)
- c. List different switching mechanisms. Choose the appropriate mechanism at physical layer, data link layer , network layer and application layer. (06 Marks)

OR

- 6 a. For the Virtual Circuit Network, shown in Fig.Q6(a), with neat diagram illustrate :
- i) Set – up request ii) Set – up acknowledgement.

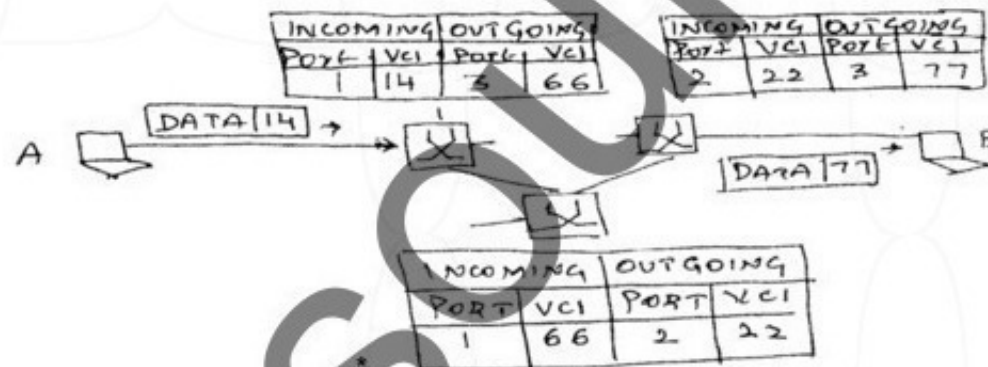


Fig. Q6(a) (10 Marks)

- b. Explain the concept of checksum algorithm. Illustrate the algorithm for the given data for corrupted and uncorrupted cases. Given data = {8, 13, 11, 0, 1}. (10 Marks)

Module-4

- 7 a. Demonstrate taking an example, character oriented and bit oriented framing. (10 Marks)
- b. A network transmit 200bit frames on a shared 200 Kbps line. Compute the throughput for pure ALOHA and slotted ALOHA if the system produces
- i) 1000 frames/sec ii) 500 frames/sec iii) 250 frames/sec.
- Tabulate the values computed. (10 Marks)

OR

- 8 a. Demonstrate the concept of IP address and Link – layer address, consider a small internet. (07 Marks)
- b. What is the role of Address Resolution Protocol (ARP)? Explain its Operation. (07 Marks)
- c. What is Classless Inter Domain Routing (CIDR)? Explain Address Aggregation Strategy with example. (06 Marks)

Module-5

- 9 a. For the Ethernet address : 07 : 01 : A2 : B3 : 64 : 55.
- i) How does it appear online in Binary?
 - ii) How does it appear during transmission?
 - iii) What is the type of address? Justify. (04 Marks)

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- b. Suppose the length of a 10 Base 5 cable is 2500m. If the speed of propagation in a thick co-axial cable is 2×10^8 m/s. How long does it take for a bit to travel from the beginning to the end of the network? Assume there is a $10\mu\text{sec}$ delay in the equipment. (06 Marks)
- c. Discuss the Implementation of Standard Ethernet. (10 Marks)

OR

- 10 a. Explain the following concepts of IEEE 802.11 Project.
 - i) Basic Service Set
 - ii) Extended Service Set
 - iii) Station types. (08 Marks)
- b. List the types of Bluetooth Architectures. Explain them. (04 Marks)
- c. In a 802.11, give the value of Address 1, Address 2, Address 3, Address 4. In each of the following situations dictated by 'TO DS' and 'From DS' fields.
 - i) 00
 - ii) 01
 - iii) 10
 - iv) 11. (08 Marks)
