

SCHOOL OF INFORMATION TECHNOLOGY & ENGINEERING

Continuous Assessment Test – II
Winter Semester 2019-20

Programme: B.Tech (CSE)
Course Name: Data Communication and Computer Networks
Course Code: ITE 3001

Duration: 90 Minutes

Max. Marks: 50

Course Mode: C/AI

Mode: Closed Book

Slot: A2 + TA2

Faculty: Prof. Priya M, Prof. S. Sudha

PART - A - Answer ALL the Questions-(5 x 10marks = 50 Marks)

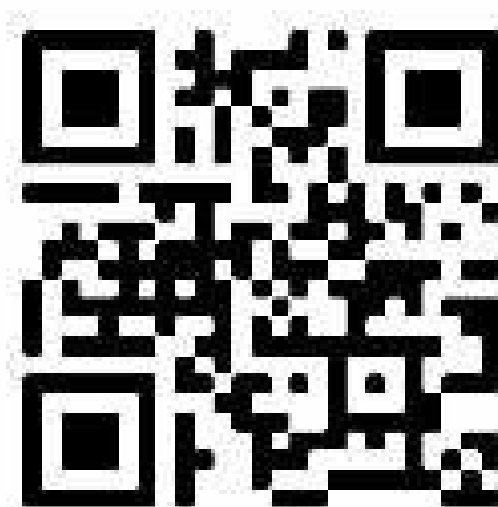
1. The sender wants to send continuously several frames specified by a window size even without receiving feedback from the receiver node. Identify the suitable protocol and explain it with the suitable diagram.
2. In a company, the nodes of the network use scheduling based medium access control scheme which provides fairness and each node is directly connected to its neighbors. Explain the frame format and operation of the above network.
3. A company has applied for and received a network address of 181.56.0.0. It needs 100 subnets. Design the subnets. Identify the first and last address of each of the subnets and its range.

4. An ISP is granted a block of addresses starting with 174.90.0.0/16. The ISP wants to distribute these blocks to 3 groups of customers as follows:

- a. The first group of 32 customers, each needs 256 addresses.
- b. The second group of 64 customers, each needs 128 addresses.
- c. The third group of 16 customers, each needs 64 addresses.

Design the sub-blocks and give the slash notation for each sub-block. Determine the number of addresses still available after these allocations

5. (i) An IP datagram of size 1000 bytes arrives at a router. The router has to forward this packet on a link whose MTU (maximum transmission unit) is 100 bytes. Assume that the size of the IP header is 20 bytes. Identify the the number of fragments that the IP datagram will be divided into for transmission.
(ii) With neat sketch, state and explain the Ethernet frame format.



SCAN ME

256

X 2

28 X

15