Total No. of Questions : 8] *[Total No. of Printed Pages : 1*

Roll No .....

CS-604 (GS)

B.E. VI Semester Examination, June 2020

Grading System (GS)

Computer Networking

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

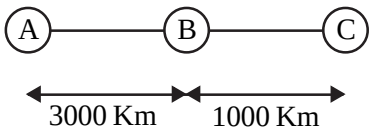
ii) All questions carry equal marks.

1. Discuss the M/M/1 queuing system with infinity capacity and obtain its steady state probability and mean no. of customer in the system.

2. Explain IEEE 802.2 in detail.

3. A channel has a bit rate of 4 kbps and propagation delay of 20 msec. For what range of frame size does stop and wait protocol gives an efficiency of at least 50%?

4. Three stations A, B and C are connected are shown, A is the source and C is the destination.



Between A to B T1 trunk is used using Go Back *n* protocol. Between B to C stop and wait protocol is used with very short acknowledgement. Frame size is 64 byte and propagation speed is 6 msec/Km. What should be the channel capacity of B to C channel so that station B will not overflow?

5. 10000 airline reservation stations are competing for the use of a single slotted aloha channel. The average station makes 18 requests/hour. A slot is of 125 microseconds.

What is the approximate total channel load?

6. What is meant by congestion in subnet? Explain congestion control in datagram subnet.

7. A large population of ALOHA users manage to generate 50 requests/sec, including both originals and retransmission. Time is slotted in unit of 40 msec.

i) What is the chance of success in 1^{st} attempt?

ii) What is the probability of exactly k collisions and then a success?

iii) What is the throughput of the channel?

8. Write short note (Any Two):

a) UDP

b) IP Protocol

c) Broadcast Routing.

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