Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-604 (GS)

B.E. VI Semester

Examination, May 2018

Grading System (GS)

Computer Networking

Time : Three Hours

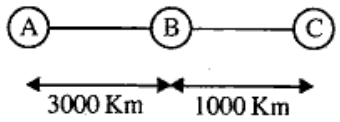
Maximum Marks : 70

Note: i) Answer any five questions.
ii) All questions carry equal marks.
iii) Assume suitable value for missing data, if any.

1. What are the advantages of Internet TCP/IP model over OSI model?

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

3. 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 μsec/Km. What should be the channel capacity of B to C channel so that station B will not overflow?

4. Draw the frame format of HDLC protocol. Explain the use of control, data checksum and address fields of HDLC protocol.

5. Write a comparison between 802.11 and 802.16?

6. In a token ring LAN, there are 256 stations and the distance between two neighboring station is 10 meters. The data rate is 1Mbps and velocity of signal propagation is 2.5×10^5 km/sec. at a certain time 116 stations are powered off, 0 stations are active and each active station is holding the token for 10 msec. Determine the current scan time and channel efficiency.

7. What is leaky Bucket algorithm? A computer on 6Mbps network is regulated by token bucket. The token bucket is filled at a rate of 1Mbps. It is initially filled to capacity with 8 megabits. How long can be computer transmit at the full 6Mbps.

8. Answer any four of the following:
   a) Explain Networking Protocol.
   b) If the start and end header is "100001" and the following data stream is to be bit stuffed "100110001100001110000001111", what will be the frame after bit stuffing?
   c) Sixteen stations are contending for the use of a shared channel using the adaptive tree walk protocol. If all the station whose address are prime numbers suddenly become ready at once, how many bit slots are needed to resolve the contention?
   d) What is congestion? How it is avoided?
   e) Explain connection management issue at transport layer.
   f) What are TCP and UDP? Explain how you will choose TCP and UDP?

******