

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

Roll No

CS-604

B.E. VI Semester

Examination, December 2016

Computer Networking

Time : Three Hours

Maximum Marks : 70

- Note:* i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except Numericals, Derivation, Design and Drawing etc.
v) Assume suitable value for missing data, if any.

1. a) What is Protocol?
b) Why star topology is commonly preferred?
c) What is the difference between connectionless communication and connection oriented communication?
d) Discuss the M/M/1 queuing system with infinity capacity and obtain its steady state probability and mean no. of customer in the system.

OR

Compare OSI and TCP/IP reference model.

2. a) Define Data transparency.
b) Define Error control.
c) What are the reasons for breaking a long data transmission up into a number of frames?

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- d) Two stations communicate VIA A1 Mbps satellite link with a propagation delay of 270ms. The satellite serves merely to retransmit data received from one station to another, with negligible switching delay. Using HDLC frames of 1024 bits with 3-bit sequence numbers, what is the maximum possible data throughput.

OR

Compare the performance of stop and wait protocol and sliding window protocol.

3. a) What is random access?
b) How can you compare 1-persistent CSMA and P-Persistent CSMA?
c) Fast Ethernet has the same 64 byte minimum frame size but can get bits out ten times faster. How is it possible to maintain the same frame size? How much bandwidth loss will occur in this case?
d) Differentiate between 802.3, 802.4 and 802.5 IEEE standard.

OR

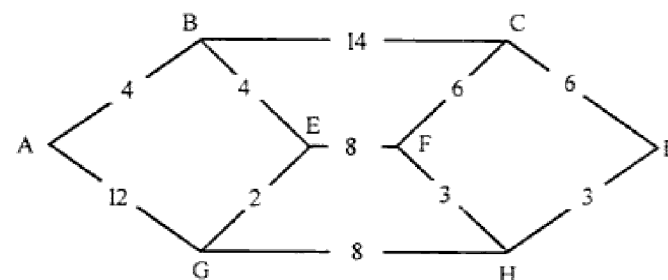
Evaluate the ring latency of 20 stations separated by 100 meters and operate at a speed of 4Mbps. Assume the delay introduced by each station to be 2.5 bit.

4. a) What do you mean by Unicast Routing?
b) What is the difference between congestion control and flow control?
c) Write the desired property of routing algorithm.

- d) Describe multicasting in the mobile IP protocol. Show, using diagram, the difference between the bidirectional tunnel multicast method and the remote subscription multicast method.

OR

Apply Dijkstra's routing algorithm to calculate shortest path with source vertex 'A'.



5. a) What is Data compression?
b) Explain flow control in TCP.
c) In cases where reliability is not of primary importance, UDP would make a good transport protocol. Give examples of specific cases.
d) Explain SMTP protocol in detail.

OR

What is FTP? How FTP differs from other internet applications and also gives the important features of FTP.
