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14SCS22

Second Semester M.Tech. Degree Examination, June/July 2016
Advances in Computer Network

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions.***

1 a. Explain the requirements to built a computer networks that will support different applications. **(10 Marks)**

b. Briefly discuss the different performance metrics of networks. Calculate the delay × bandwidth product for channel with one way latency of 10μs and bandwidth of 100 Mbps. **(10 Marks)**

2 a. With illustration explain the sliding window algorithm. **(10 Marks)**

b. Explain TCP/IP layer reference model. Discuss two protocol layering principles. **(10 Marks)**

3 a. What is source routing? With an example explain three ways to handle header for source routing. **(10 Marks)**

b. Describe the spanning tree algorithm. For extended LAN shown in Fig. Q3(b), assume that bridge B_1 suffers catastrophic failure. Indicate which ports are not selected by the spanning tree algorithm after the recovery process and a new tree has been formed. **(10 Marks)**

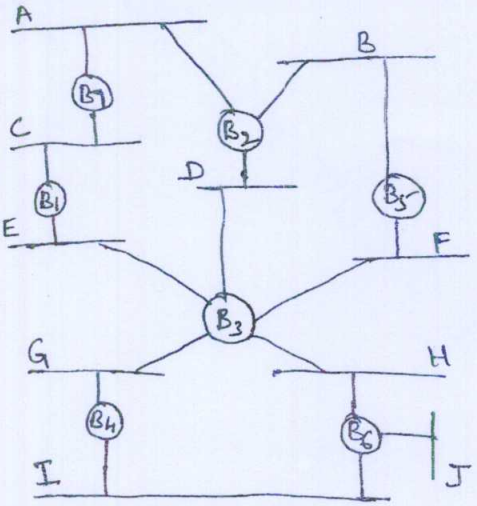

Fig. Q3(b)

4 a. Explain link state routing algorithm and trace the algorithm for the network shown in Fig. Q4(a). **(10 Marks)**

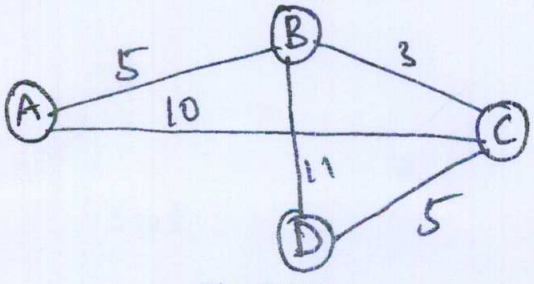

Fig. Q4(a)

b. With an example explain the need of subnetting. **(10 Marks)**

5 a. List the BGP characteristics and give the BGP path attributes. **(10 Marks)**

b. Explain the following :

i) Mobile IPV4 address

ii) IPV4 registration massage format. **(10 Marks)**

6 a. Describe the format of UDP header and UDP message queue. **(08 Marks)**

b. Explain different end-to-end issues in the TCP protocol. **(06 Marks)**

c. Write a short note on reliable and order delivery. **(06 Marks)**

7 a. Explain the principle of bit-by-bit algorithm under round robin scheme in fair queuing for congestion control. **(10 Marks)**

b. Explain the implementation of RED algorithm. **(10 Marks)**

8 a. Explain the following :

i) Mapping domain names to address

ii) Mail retrieval and mail bot manipulation protocol. **(10 Marks)**

b. With neat diagram, explain structure and representing MIB object names. **(10 Marks)**

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