Code: 9F00301

MCA III Semester Supplementary Examinations May 2018

COMPUTER NETWORKS

(For 2011(LC), 2012, 2013, 2014, 2015 & 2016 admitted batches only)

Time: 3 hours Max. Marks: 60

Answer any FIVE questions
All questions carry equal marks
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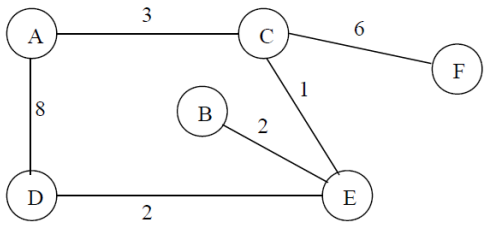
1 a) Bring out a comparison between OSI and TCP/IP reference models.
b) Explain briefly: (i) Twisted pair copper wire (ii) Coaxial cable (iii) Fiber optics.

2 a) Explain with an example how error detection and correction is done in the data link layer.
b) With a neat diagram, explain the concept of sliding window protocol.

3 a) Illustrate the assumptions made during dynamic channel allocation. Explain each one of them.
b) Write a note on Persistent and Non persistent CSMA.

4 a) For the network given in figure below, give the forwarding table for each node. The links are labeled with relative costs; Your tables should forward each packet via the lowest cost path to its destination using distance vector routing algorithm.



b) Discuss the congestion prevention techniques as choke packets and load shedding.

5 a) With a neat diagram, explain the concepts of tunneling a packet.
b) Explain briefly the Internet Multicasting. Discuss the PIM (Protocol Independent Multicast) and its types.

6 (a) Discuss two phase locking protocol and strict two-phase locking protocol.
(b) Discuss about conflict serializability with an example.

7 a) Using the RSA public key cryptosystem, If p = 11 and q = 13, find the value of e and d. Also perform the encryption for message M=5 and find the Cipher text.
b) Encrypt the message “JawaharlalNehruTechnologicalUniversity ” using transposition technique with key “3 1 5 2 4 6”

8 a) What are Domain name systems? With a neat diagram explain Internet domain name space.
b) List the importance of MIME protocol. Discuss the five message header of MIME.

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