

MCA-305

MCA. III Semester

Examination, December 2016

Computer Networks

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.

Unit - I

1. a) What is Computer Network?
b) Define Loosely coupled and Tightly coupled systems.
c) Compare Infrared and spread spectrum LANs.
d) Explain the CSMA/CD method of medium access in Ethernet LANs.

OR

Compare OSI and TCP/IP network reference models.

Unit - II

2. a) What is data security?
b) Explain Hamming Code.
c) Explain the sliding window protocol.
d) What types of errors can be detected by parity check Code? How is it implemented? Explain with a suitable example.

OR

List any four kind of error which remains undetected by the checksum.

Unit - III

3. a) What is Token Bus?
b) Explain Token Ring.

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PTO

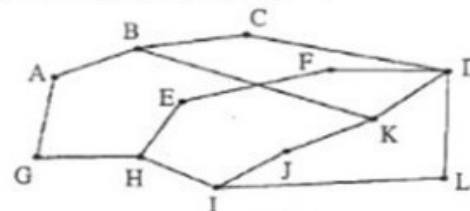
- c) Explain FDDI Protocol.
d) How does sliding window protocol help to reduce congestion to an extent? Explain with suitable example.

OR

What is the baud rate of the standard 10-Mbps Ethernet? Sketch the Manchester encoding for the bit stream : 0001110101.

Unit - IV

4. a) Explain Routing with types.
b) Explain UDP in detail.
c) When Web pages are sent out, they are prefixed by MIME headers. Why?
d) Compute a multi-cast spanning tree for router C in the following subnet for a group with members at routers A, B, C, D, E, F, I and K.



OR

A router is blasting out IP packets whose total length (data plus header) is 1024 bytes. Assuming that packets live for 10 sec, what is the maximum line speed the router can operate at without danger of cycling through the IP datagram ID number space?

Unit - V

5. a) Explain Network Security.
b) What is Cryptography?
c) Give two reasons why PGP compresses messages.
d) What is steganography and water marking?

OR

Explain different social issues related to internet and its security.

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