

Roll No

IT-503**B.E. V Semester**

Examination, June 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 questions 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) Draw suitable and neat diagrams.

Unit-I

1. a) Define computer network, LAN, and WAN.
 b) Differentiate connectionless and connection oriented services.
 c) Write a short note on X.25 protocol.
 d) Show the flow of message, for E-mail sending, through all the layers of OSI model at sender end, with neat diagram.

OR

Define protocol. Why TCP/IP suit is having lesser layers than OSI model? Also state why is it named as TCP/IP?

Unit-II

2. a) What is piggybacking and its importance in data transfer?
 b) Write a note on serial line protocol.
 c) Explain framing with suitable diagram.
 d) Explain sublayers of data link layer with their respective functionalities.

[2]

OR

Explain HDLC frame format with diagram.

Unit-III

3. a) What do you understand by the term "access control"?
 b) Differentiate token ring and token bus.
 c) Derive efficiency of pure ALOHA protocol.
 d) What is CSMA? Compare persistent and non-persistent CSMA.

OR

Explain Ethernet frame format and cabling with suitable diagrams.

Unit-IV

4. a) Explain the term "forwarding"
 b) Differentiate switch and hub.
 c) What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255. 255. 255. 224 subnet mask?
 d) Write an algorithm for least cost routing and explain with suitable example and diagram.

OR

You have been asked to create a subnet mark for 172.16.0.0 network. Your organisation requires 900 subnets with at least 50 host per subnet. What subnet mask should you use?

Unit-V

5. a) Write a note on ping command.
 b) State functions of Gateway.
 c) Explain process to process delivery.
 d) Discuss services of transport layer.

OR

Which protocol is connectionless TCP or UDP? If it is so, how does it guarantee reliability, explain.
