Roll No .....

CS - 604

B.E. VI Semester

Examination, June 2015

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 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.

Unit - I

1. a) What is multicasting?
   b) Write any two differences between connection oriented and connection less services.
   c) What is Little's formula? Prove it.
   d) During the communication, how various layers of OSI model exchange information to establish a connection? Describe with the help of a suitable diagram.

   OR

   Discuss Markov chain model and explain M / G / 1 queues.

Unit - II

2. a) What are the various functions performed by the data link layer?
   b) What do mean by protocol verification?

c) Explain the mechanism of stop- and wait ARQ.

d) Explain the following protocols:

i) SDLC

ii) LAP and LAPB

OR

A channel of one Mbps with propagation delay of 270 ms transmits frames of size 1000 bits. What is the maximum link utilization for stop-and-wait, and sliding window with window size 7?

Unit - III

3. a) Differentiate between 1-persistent CSMA and p-persistent CSMA protocols.

b) What is channelization? Define time Division Multiple Access.

c) Explain URN protocol.

d) Explain the following :

i) High speed LAN

ii) Fast Ethernet

iii) FDDI

OR

Define the throughput of Pure ALOHA? A pure ALOHA network transmits 200-bit frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces-

i) 1000 frames per second

ii) 500 frames per second

iii) 250 frames per second

Unit - IV

4. a) What is IPv4 Protocol?

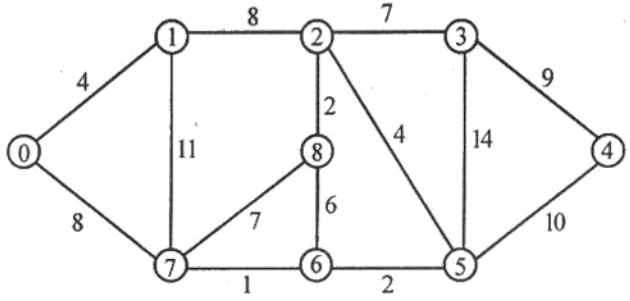
b) What is Mobile IP?

c) What is IP Addresses? Categorize the IP addresses into various classes.

d) How does link state routing take care of the problem of wrapping of sequence numbers, crashing of routers and corruption of sequence number?

OR

What is Dijkstra algorithm? Using Dijkstra algorithm find the shortest path from 0 to 4.



Unit - V

5. a) What is the utility of DNS.

b) What are the various transmission modes of FTP?

c) What is World Wide Web? Explain the architecture of www.

d) Briefly explain two protocols used in Transport Layer for Internet. Explain the TCP service model and segment header.

OR

How Connection is established and Terminated in TCP using Three way handshaking mechanism? Describe in detail.

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