6E3201

B.Tech. (Sem. VI) (Main/Back) Examination, 2013

Computer Engineering

6CS1 COMPUTER NETWORKS

Common to CS and IT

Time: 3 Hours **Maximum Marks: 80**

Min. Passing Marks: 24

Instructions to Candidates:

*Attempt any **five questions**. Selecting **one question** from **each unit**. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

1. _____ 2. _____

Unit-I

Q.1 (a) Describe Routing principle. Explain distance vector routing algorithm. **[8]**

(b) Explain flooding and shortest path routing and describe how they are used in link state routing. **[8]**

OR

Q.1 (a) What is difference between token bucket and leaky bucket algorithm?

(b) Describe all the parameters used in flow specification techniques of congestion control.

(c) What is the difference between open-loop congestion control and closed loop congestion control?

(d) What is four general technique to improve the quality of service. **[4×4=16]**

Unit-II

Q.2 (a) Explain the following protocols

(i) RARP Vs BOQTP

(ii) POP3 Vs IMAP **[10]**

(b) Discuss the subnetting and divide class 'C' network into 4 logical networks, if the address was 194.17.68.0. What are the ranges? **[6]**

OR

Q.2 (a) Explain the difference between IPV4 and IPV6. **[5]**

(b) An address in a block is given as 73.22.17.25.

(i) Find the total number of address in the block.

(ii) First and last address. **[6]**

(c) What do you understand by layering and protocol? Explain your answer using the Internet architecture. **[5]**

Unit-III

Q.3 (a) Explain the working Go-Back-N protocol and compare it with selective repeat protocol. **[8]**

(b) Explain three – way hand shaking protocol of connection establishment in transport layer. **[8]**

OR

Q.3 (a) What is the need of multiplexing in transport layer? Explain two type of multiplexing. **[5]**

(b) Explain the difference between connection oriented and connection less services. **[6]**

(c) Discuss the mechanism of flow control. **[5]**

Unit-IV

Q.4 (a) Describe the TCP connection management. **[8]**

(b) A typical sequence of TCP states visited by server side TCP, if TCP round trip time is 30 sec and following acknowledgment come in after 26, 32, 24 msec respectively. What is the new RTT estimate? Use $\phi = .9$. **[8]**

OR

Q.4 (a) Discuss the possible scenarios for a transport connection over a connection oriented network layer. **[8]**

(b) Explain Quality of service for transport layer. **[8]**

Unit-V

Q5 (a) Explain DNS with its messaging scheme and record format. Discuss the resolution process of DNS. [8]

(b) Explain HTTP and its message formats. [4]

(c) Explain architecture of World Wide Web. [4]

OR

Q5 (a) What is E-mail privacy? Why do we need POP3 or IMAP4 for electronic mail. [8]

(b) Explain different services of application layer. [4]

(c) Write short note on exploiting heterogeneity. [4]