

**B.TECH.****THEORY EXAMINATION (SEM–VI) 2016-17****COMPUTER NETWORK****Time : 3 Hours****Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A****1. Explain the following:****10 x 2 = 20**

- (a) Write about user access in ISDN.
- (b) List the advantages and disadvantages of star topology.
- (c) Compare ALOHA with slotted ALOHA.
- (d) State the requirements of CRC.
- (e) Provide few reasons for congestion in a network.
- (f) With the given IP-address, how will you extract its net-id and host-id?
- (g) What is piggybacking?
- (h) How does transport layer perform duplication control?
- (i) Mention the use of HTTP.
- (j) List out few email gateways.

**SECTION – B****2. Attempt any five of the following questions:****5 x 10 = 50**

- (a) Discuss the issues in the data link layer and about its protocol on the basis of layering principle.
- (b) Explain network topological design with necessary diagram and brief the advantages and disadvantages of various topologies.
- (c) Consider the use of 10 K-bit size frames on a 10 Mbps satellite channel with 270 ms delay. What is the link utilization for stop-and-wait ARQ technique assuming  $P=10^{-3}$ ?
- (d) Brief about how line coding implemented in FDDI and describe its format.
- (e) Enumerate on TCP header and working of TCP and differentiate TCP and UDP with frame format.
- (f) Explain the three way handshaking protocol to establish the transport level connection
- (g) Elaborate about TELNET and its working procedure.
- (h) How does FTP work? Differentiate between passive and active FTP.

**SECTION – C****Attempt any two of the following questions:****2 x 15 = 30**

- 3 (i) Explain functionalities of every layer in OSI reference model with neat block diagram.
- (ii) Illustrate the performance issues for GO-BACK-N data link protocol.
- 4 (i) Describe the problem of count to infinity associated with distance vector routing technique.
- (ii) Enumerate how the transport layer ensure that the complete message arrives at the destination and in the proper order.
- 5 Explain the SNMP protocols in detail.

