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Seventh Semester B.E. Degree Examination, June/July 2014
Computer Communication Networks

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1
 - a. Describe the layer presentation in the TCP/IP model and explain the protocol of each layer. (08 Marks)
 - b. What is ADSL? Explain the operation of ADSL using discrete multi tone modulation with a neat diagram. (08 Marks)
 - c. List diagram types of addressing. Explain any one type of addressing with suitable examples. (04 Marks)
- 2
 - a. What is framing? Explain bit stuffing with a help of a diagram. (05 Marks)
 - b. With neat diagram, explain HDLC frame format. (05 Marks)
 - c. Explain stop and wait automatic repeat request for noisy channel. (08 Marks)
 - d. Perform bit stuffing on the given bit stream
0001111111001111101000 assume flag as 01111110. (02 Marks)
- 3
 - a. A pure ALOHA network transmits 200 bit frames on a shared channel of 200kbps. What is the throughput if system produces: i) 1000 frames per second; ii) 500 frames per second. (04 Marks)
 - b. Explain 1-persistent, non-persistent and p-persistent with flow diagram. (06 Marks)
 - c. With suitable diagram and example explain CDMA. (06 Marks)
 - d. Explain polling as a controlled access technique. (04 Marks)
- 4
 - a. Explain frame format of 802.3 MAC frame. (06 Marks)
 - b. Define the type of the following destination address and justify answer:
i) 4A : 30 : 10 : 21 : 10 : 1A ii) 47 : 20 : 1B : 2E : 08 : EE. (04 Marks)
 - c. Explain bridge Ethernet, switched Ethernet, full duplex Ethernet. (10 Marks)

PART – B

- 5
 - a. Explain what is loop problem and solution for a loop problem in a bridge with suitable examples and diagrams. (10 Marks)
 - b. Explain bus backbone and star backbone networks. (06 Marks)
 - c. What is VLAN? Explain briefly. (04 Marks)
- 6
 - a. What is NAT? Explain how NAT help in address depletion. (05 Marks)
 - b. Explain IPV4 datagram. (05 Marks)
 - c. An ISP granted a block of addressing with 190.100.0.0/16. The ISP needs to distribute these address to three groups of customer as follows:
i) First group has 64 customers each with 256 addresses.
ii) Second group has 128 customers each with 128 addresses. (05 Marks)
 - d. Explain class full addressing for IP address. (05 Marks)

- 7 a. With suitable diagram explain distance vector routing. (10 Marks)
- b. Explain different solution to two-node instability. (05 Marks)
- c. Explain source-based tree and group shared based tree. (05 Marks)

- 8 a. Describe a TCP connection establishment using three way handshake. (10 Marks)
- b. Explain TCP and UDP datagram. (10 Marks)

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