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Reg. No. : .....

Name : .....

VI Semester B.Tech. Degree Examination, May 2016
(2013 Scheme)
13.604 : COMPUTER NETWORKS (FR)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions

1. Differentiate connection-oriented and connectionless services of the layers in the network model.
2. Explain how a bridge is used in connecting different LANs.
3. Find the class of each address
   a) 00000001 00001011 00001011 11101111
   b) 11000001 10000011 00011011 11111111
   c) 14.23.120.8
   d) 252.5.15.111
   e) 205.16.37.32
4. What is the functionality of ARP ? Explain with an example.
5. What are the problems for full implementation of voice over IP ? Do you think we will stop using the telephone network very soon ? **(5x4=20 Marks)**

PART – B

Answer **one full** question from **each** Module.

Module – I

I. a) Explain how multiple processor systems are classified based on their physical size. **10**

   b) Describe the functions of transport layer in a computer network. **10**

OR

II. a) Compare and contrast the Go-Back-NARQ Protocol with Selective-RepeatARQ. **10**

   b) State the purpose of checksum. Write the algorithm for calculating the checksum and apply it for the frame 1101011011 and the generator G(x) = x4 + x + 1. **10**

P.T.O.

Module – II

III. a) Describe about the Ethernet standards 802.3, 802.4, 802.5. 12

b) If an Ethernet destination address is 07:01:02:03:04:05, what is the type of the address (unicast, multicast or broadcast) ? Explain your answer. 8

OR

IV. a) Explain the drawbacks of distance vector routing. Discuss about the algorithm which overcomes those drawbacks. 12

b) Illustrate the working of Packet routing in mobile hosts. 8

Module – III

V. a) Describe the general principles of congestion control and state how the token bucket algorithm improves QoS. 12

b) Explain how internetworking is achieved through tunneling. 8

OR

VI. A host with IP address 130.23.43.20 and physical address B2:34:55:10:22:10 has a packet to send to another host with IP address 130.23.43.25 and physical address A4:6E:F4:59:83:AB (which is unknown to the first host). The two hosts are on the same Ethernet network. Show the ARP request and reply packets encapsulated in Ethernet frames. 20

Module – IV

VII. a) Explain the operations and uses of UDP. 10

b) Describe how name servers are managed in DNS. 10

OR

VIII. a) Illustrate with state diagrams the establishment of transport layer connection using TCP. 10

b) Describe the SIP standards for setting up internet telephone calls and video conferences. 10