USN [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   **10EC/TE71**

Seventh Semester B.E. Degree Examination, July/August 2021
Computer Communication Networks

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   a.   With a neat diagram, explain TCP/IP reference model.   **(10 Marks)**
    b.   Explain the operation of ADSL using discrete modulation indicating the different channels, with neat diagram.   **(06 Marks)**
    c.   Match the following to one or more layers in OSI model:
         i)   Framing
         ii)   Source to destination delivery
         iii) Interface to transmission media
         iv)   Provide access to end user.   **(04 Marks)**

2   a.   What is DATA LINK LAYER? Explain Bit stuffing and Byte stuffing with example.   **(06 Marks)**
    b.   With the help of flow chart explain GOBACK N sliding window protocol.   **(08 Marks)**
    c.   Explain the different frames of HDLC frame.   **(06 Marks)**

3   a.   With the help of neat flow chart explain CSMA/CA of random access method of multiple access.   **(08 Marks)**
    b.   Explain Token ring passing method with respect to different topologies, with the help of neat diagrams.   **(06 Marks)**
    c.   With the help of neat diagram, explain CDMA method of channelization.   **(06 Marks)**

4   a.   Give the format for the IEEE802.3 frame for Ethernet. What are the minimum and maximum frame lengths?   **(10 Marks)**
    b.   Explain auto negotiation. What are the purposes of using this feature in design of fast Ethernet?   **(10 Marks)**

5   a.   Explain each of the following:
         i) Passive hub   ii) Repeater   iii) Bridge   iv) Router   v) Gateway.   **(10 Marks)**
    b.   Explain briefly the concept of VLAN's and what are the advantages of VLAN's.   **(05 Marks)**
    c.   What are transparent bridges? Explain loop problems.   **(05 Marks)**

6   a.   Explain with neat diagram datagram format of IPV4.   **(08 Marks)**
    b.   Explain class full addressing in IPV4. Mention the different classes in class full addressing and define the application of each class.   **(08 Marks)**
    c.   Find the net id and Host id for the following:
         i)   19.34.21.5
         ii)   190.13.70.10
         iii) 246.3.4.10
         iv)   201.2.4.2   **(04 Marks)**

7   a.   Explain briefly forwarding techniques. Explain three different forwarding techniques.   **(06 Marks)**
    b.   Explain distance vector RIP for intra domain routing protocol.   **(10 Marks)**
    c.   What is the difference between a direct and an indirect delivery?   **(04 Marks)**

8   a.   Explain connection establishment and connection termination in TCP.   **(10 Marks)**
    b.   Explain UDP, TCP and DNS.   **(10 Marks)**

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