P-5783

[6120]-105

M.C.A. (Management)
IT-15 : NETWORK TECHNOLOGIES
(2020 Pattern) (Semester - I)

Time : 2½ Hours]   *[Max. Marks : 50*

Instructions to the candidates:

   1)   *All questions are compulsory.*

   2)   *All questions carry equal marks.*

   3)   *Draw neat diagrams wherever necessary.*

Q1) a)   Explain Guided transmission media in detail.   **[4]**

    b)   Compare OSI model Vs TCP/IP model.   **[6]**

OR

    a)   Explain Ethernet Frame Format & Access method.   **[4]**

    b)   Explain Need of Layering with example.   **[6]**

Q2) a)   Draw and explain IPv6 packet format.   **[4]**

    b)   Generate CRC code for the data word - 11001010 using the divisor - 10101.   **[6]**

OR

    a)   For the given Class-C IP Address - 198.168.57.23 and subnet mask 255.255.255.192. Calculate   **[4]**

       i)   Total no. of subnets

       ii)   Total no. of Host IPs/Subnet

       iii) Total no. of Valid Host IPs/Subnet

       iv) First and Last Valid IP for each subnet

    b)   Describe any two Error-detection techniques.   **[6]**

Q3) a) Find the maximum number of Hosts available on - Class-B IP address - with subnet mask 255.255.255.240. Also find maximum number of subnets available. **[4]**

b) Describe HDLC protocol with its sub types and frame format. **[6]**

OR

a) Explain performance of TCP protocol in wireless network. **[4]**

b) Detect and correct the single error in the received Hamming code word 110011100110 - with odd parity. **[6]**

Q4) a) Explain different security attacks. **[4]**

b) Explain MIME in detail. **[6]**

OR

a) Explain symmetric key cryptography with example. **[4]**

b) What is HTTP? Explain HTTP request and response messages in detail. **[6]**

Q5) a) Explain path vector protocol in brief. **[4]**

b) Write a TCP server socket program which accept a request from client to capitalize string and sending the response in the form of capitalized sentence back to the client. **[6]**

OR

a) Explain RIP in detail. **[4]**

b) Write Client and Server programs for establishing and termination of connection between client and server using TCP. **[6]**

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