

OCT/NOV 2023

Total No. of Questions : 5]

SEAT No. :

P-5783

[Total No. of Pages : 2

[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]

P.T.O.

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]

