

MAR/APR 11-2024

Total No. of Questions : 5]

SEAT No. :

**PB831**

[Total No. of Pages : 2

[6204]-15

**M.C.A. (Management)**

**IT 15: NETWORK TECHNOLOGIES**

**(Revised 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 different Ethernet standards in detail. **[4]**

b) Describe TCP/IP model in brief. **[6]**

OR

a) Explain wireless LAN access Technique-CSMA/CA **[4]**

b) Explain OSI model in detail. **[6]**

**Q2) a)** Draw and explain IPV4 Packet format. **[4]**

b) The received code word is 110010000111, check if there is error in the code word if divisor is 10101. **[6]**

OR

a) For the given class C IP address - 197.223.16.1 and subnet mask 255.255.255.224. Calculate

- 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. **[4]**

b) Describe PPP Protocol with frame format. **[6]**

**P.T.O.**

**Q3) a)** Find the maximum no. of hosts available on class B IP address with subnet mask 255.255.255.192, also find maximum no. of subnets available. [4]

b) Explain any two flow and error control protocols with suitable example. [6]

OR

a) Describe UDP connection and UDP service. [4]

b) Generate the hamming code for the data 10111001 with odd parity. [6]

**Q4) a)** What is Cryptography? Enlist its types in detail. [4]

b) What is resource records? Explain different resource records in detail. [6]

OR

a) What is packet filter firewall? Explain its policies. [4]

b) What are email protocols? Explain any two email protocols in detail. [6]

**Q5) a)** What is IP Routing? Differentiate interior and exterior routing protocols. [4]

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

OR

a) Explain any one distance vector protocol. [4]

b) Write client and server socket programs for simple chat application. [6]

