N22 - 00430

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE – NOVEMBER – 2022

COMPUTER NETWORKS

(Maximum Marks : 100)   (Time : 3 hours)

PART – A
(Maximum Marks : 10)

Marks

I.   Answer **all** questions in one or two sentences. Each question carries 2 marks.

1. List any two criteria that a network must satisfy.

2. What is a repeater?

3. Explain HLEN field of IPV4 datagram.

4. Define socket address.

5. Which are the protocols used to send and receive email?   (5x2=10)

PART –B
(Maximum Marks : 30)

II.   Answer any **five** of the following questions. Each question carries 6 marks.

1. Explain any three network topologies.

2. Differentiate between unicasting, multicasting and broadcasting.

3. Explain delivery of packets in network layer.

4. Explain multiplexing and demultiplexing.

5. Explain the design of simplest protocol.

6. Explain the architecture of WWW.

7. Explain DNS messages.

(5x6=30)

PART – C

(Maximum Marks : 60)

(Answer **one full** question from each unit. Each full question carries 15 marks)

UNIT – I

III. (a) Explain TCP/IP protocol suite. (10)

(b) What are the different characteristics that can be used to group stations in a VLAN? (5)

OR

IV. (a) Explain different levels of addresses used in the Internet. (9)

(b) Define the type of the following Standard Ethernet addresses (whether unicast, multicast or broadcast): (i) 4A:30:10:21:10:1A (ii) 47:20:1B:2E:08:EE
(iii) FF:FF:FF:FF (6)

UNIT – II

V. (a) Explain IPV4 datagram format. (8)

(b) Explain the need for fragmentation of a datagram. (7)

OR

VI. (a) Explain Distance Vector Routing. (8)

(b) Explain Link state routing. (7)

UNIT –III

VII. (a) Explain the design of Go-Back-N protocol. (9)

(b) Describe flow control, error control and congestion control. (6)

OR

VIII. (a) Explain in detail a TCP segment format. (8)

(b) Explain connection establishment in TCP. (7)

UNIT – IV

IX. (a) Describe HTTP in detail. (10)

(b) Differentiate data connections and control connections in FTP. (5)

OR

X. (a) Explain TELNET. (8)

(b) Explain name – address resolution in detail. (7)

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