

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, NOVEMBER - 2022**

**COMPUTER NETWORKS**

[Maximum marks: 100]

(Time: 3 Hours)

**PART – A**

**Maximum marks : 10**

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

1. List the two sublayers of data link layer as per IEEE 802.
2. List the factors for measuring network layer performance.
3. State the use of magic cookie in a DHCP message.
4. Define Socket Address. Give an example.
5. State the need of DNS.

(5 x 2 = 10)

**PART – B**

**Maximum marks : 30**

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

1. Outline the hidden station problem in WLAN networks with a diagram.
2. With proper figure, explain the concept of a VLAN.
3. Differentiate multicasting and multiple unicasting.
4. Describe the three security problems associated with IP.
5. What is UDP? Draw and identify the parts of a user datagram.
6. Describe the two types of connections in FTP.
7. Explain the types of resolutions in DNS.

(5 x 6 = 30)

**PART – C**

**Maximum marks : 60**

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

**UNIT –I**

III. (a) Draw and identify the different fields of a Standard Ethernet frame.

(9)

(b) Explain the functionalities of transport layer in TCP/IP protocol suite. (6)

OR

IV. (a) Explain the two service sets as per IEEE 802.11 architecture. (9)

(b) Identify the purposes of preamble and SFD while sending a frame. (6)

#### UNIT-II

V. (a) List and explain any three open-loop congestion control mechanisms. (9)

(b) Outline the process of Link State routing. (6)

OR

VI. (a) Illustrate the process and fields of fragmentation with the help of an example. (9)

(b) Explain how throughput is determined in network layer. (6)

#### UNIT-III

VII.(a) Explain Selective Repeat protocol with diagrams of sliding windows. (9)

(b) Describe the use of URG flag in TCP segment. (6)

OR

VIII.(a) Draw and identify the parts of a TCP segment. (9)

(b) Explain SYN flooding attack. (6)

#### UNIT-IV

IX. (a) List and explain the three types of web documents. (9)

(b) Explain the working of TELNET. (6)

OR

X. (a) Explain with figure, the architecture of E-mail. (9)

(b) Explain DDNS (6)

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