A–1302

Total Pages : 3 **Roll No. .....**

MCS-506/MIT (CS)-403

(MCA/MSCIT/MSCCS)

Introduction to Computer Networks/ Introduction to Networks

Examination February, 2026

Time : 2:00 Hrs. Max. Marks : 70

Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section–A

(Long Answer Type Questions) (2×19=38)

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. What is IP address ? Compare and contrast IPv4 Network Addresses and IPv6 Network Addresses.

2. Explain OSI reference model. Describe the function performed by each layer.

3. Define transmission media. Discuss different guided and unguided transmission in detail.

4. Explain CSMA/CD protocol and how does it detect collision ?

5. Compare and contrast between OSI reference model and TCP/ IP network model.

Section–B

(Short Answer Type Questions) (4×8=32)

***Note* :–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Define Computer Network. Explain the types of Computer Networks.

2. Compare and contrast the connectionless and connection oriented communication.

3. What is Internet ? What are the Applications of Internet ? Explain.

4. What is Network topology ? Discuss various types of networks topologies in computer network.

5. What is Network Address Translation ? What are the functions of Network Address Translation ?

6. What is DES ? What are the basic features of the DES algorithm ?

7. What is Public Key Cryptography ? What are the advantages and disadvantages of Public Key Cryptography ?

8. Define the following terms :

   (i) Virtual Private Network

   (ii) Symmetric Key Cryptography

   (iii) File Transfer Protocol

   (iv) Telnet

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