# K–998

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# MCS–506/MIT(CS)–403

## MCA/MSCIT/MSCCS IInd/IVth Semester Examination Dec., 2023

## INTRODUCTION TO COMPUTER NETWORKS/INTRODUCTION TO NETWORKS

**Time :** 2 Hours] [**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 there in. ***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 OSI and TCP/IP reference models ? Explain all the layers of OSI model in detail.

2. What are different types of network topologies used in local area network ?

3. What is Computer Network ? Explain the different types of computer network.

4. What are the different types of network devices ? Explain all the network devices with their functionalities.

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

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

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

3. Differentiate between Connection oriented and connectionless services.

4. What is firewall ? Describe how firewall can be used to protect the network ?

5. What is CSMA/CD protocol ? Explain.

6. What is Internet ? What are the various applications of internet ?

7. What is transmission media ? Differentiate between guided and unguided media.

8. What is Public key Cryptography ? What are the advantages and disadvantages of Public key Cryptography ?

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