MCS-218

MASTER OF COMPUTER APPLICATIONS (MCAOL)

DATA COMMUNICATION AND COMPUTER NETWORKS

Time : Three Hours

Maximum Marks : 100

Note : There are three Sections in this paper. Attempt all the Sections.

Section-I (Short Answer Type Questions) (5×4=20)

Attempt any five questions. Each question carries 4 marks.

1. Explain Half Duplex and Full Duplex modes of data communications.

2. What do you mean by frame relay? Explain it.

3. List the functions provided by network layer and data link layer of OSI model.

4. Explain the characteristics of twisted pair cable.

5. Explain the reasons for congestion in a network system.

6. What are point to point channels? What are broadcast channels? Compare them.

7. What are stream ciphers? What are block ciphers? Write differences between them.

Section-II (Medium Answer Type Questions) (5×10=50)

Attempt any five questions. Each question carries 10 marks.

8. Explain various types of analog-to-analog modulation techniques with examples.

9. What are Guided Media and Unguided Media? Explain any one type from each of the Guided and the Unguided media.

10. What do you mean by Microwave transmission? Explain any two categories of it.

11. Explain cyclic redundancy check method. Also, write algorithm for computing the checksum.

12. Explain Stop and Wait ARQ.

13. Explain pure ALOHA method in detail for channel allocation.

14. What is binary exponential back-off algorithm? How is it used in CSMA/CD?

Section-III (Long Answer Type Questions) (2×15=30)

Attempt any two questions. Each question carries 15 marks.

15. Explain IEEE 802.11 protocol stock.

16. Explain the properties of a routing algorithm. Also, explain any two types of routing algorithms.

17. What is a MANET? Explain its architecture.