

Roll No.

Total Pages : 02

BT-4/M-23

44217

**INTELLIGENT COMMUNICATION
SYSTEMS**

ES-CS-AIDS-206A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What is the significance of Nyquist rate in communication ? Discuss sampling theorem and its applications. 7
- (b) Differentiate BPSK and QPSK. 8
2. (a) Explain data modulation. How does it differ from adaptive delete modulation ? 7
- (b) Differentiate TDMA and FDMA. 8

Unit II

3. (a) Compare connection type communication and connectionless type communication with example.

7

- (b) Write and explain Vitterbi algorithm. 8
- 4. (a) Discuss various steps involved in lossless data compression using Huffman code. 8
- (b) Explain channel coding theorem with a suitable example. 7

Unit III

- 5. Explain layered architecture of OSI mode. Differentiate OSI and TCP/IP reference models. 15
- 6. Differentiate B-ISDN and N-ISDN. Explain the layered architecture and cell structure of ATM. 15

Unit IV

- 7. (a) Explain the architecture of intelligent communication system. 8
- (b) Define production rule. Discuss various applications of production rules in telecommunication. 7
- 8. Write short notes on the following : 2×7½=15
 - (a) Horn set
 - (b) Herbrand universe theorem.