

BT-5 / D-15

DIGITAL AND DATA COMMUNICATION**Paper-IT-353***Time allowed : 3 hours]**[Maximum marks : 100*

Note : Attempt five questions, selecting at least one question from each unit.

Unit-I

1. (a) Give a detailed overview of various transmission medias. Also explain various types of transmission impairments. 10
- (b) Briefly explain analog and digital transmission. Among them which one is preferable and why. 10
2. (a) Explain QPSK encoding technique. Mention the advantages of PSK technique over ASK and FSK schemes. 10
- (b) Compare various types of digital encoding schemes. 10

Unit-II

3. (a) Compare synchronous and asynchronous data transmission technique. 10
 - (b) What is serial interfacing and explain why standardization is required for serial interfaces. 5
 - (c) Explain X. 21 interface. 5
4. Explain RS 232-C serial interface in detail.

Unit-III

5. (a) Explain three types of error control mechanisms used in data link layer. Which one of them is better and why? 10
- (b) Discuss SDLC in detail. 10

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6. (a) Compare synchronous and asynchronous TDM. What is bit stuffing and inverse multiplexing. 10
- (b) Explain FDM with proper diagram. Mention its advantages and disadvantages over TDM. 10

Unit-IV

7. (a) Explain satellite communication system using appropriate diagrams. Discuss its advantages over other types of transmission medias. 10
- (b) Compare FDMA and TDMA schemes. 10
8. Explain CDMA transmission and reception in detail citing suitable examples. 20