



C-16S-EC-404

5651

BOARD DIPLOMA EXAMINATION, (C-16S)

JUNE / JULY - 2020

DECE - IV SEMESTER EXAMINATION  
DIGITAL COMMUNICATION

Time : 2 Hours]

[Total Marks : 80

PART - A

5×6=30

Instructions : (1) Answer any SIX questions.  
(2) Each question carries FIVE marks.  
(3) Each answer should not exceed more than one page.

- 1 Define Information capacity of a channel and write the expression.  $\frac{1}{2}$
- 2 Define bit rate and dynamic range for PCM system.  $\frac{1}{2}$
- 3 Define bit overhead and overhead efficiency.  $\frac{1}{2}$
- 4 What is the need for start and stop bits ?
- 5 Define ASK. Draw the waveforms. 2
- 6 What are the application areas of digital modulation techniques ?
- 7 What is the need for modem ?
- 8 Explain the need for multiplexing.  $\frac{1}{2}$
- 9 List the advantages of electronic telephony over manual telephony.
- 10 Write the difference between packet switching and circuit switching. 2

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| Contd...

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PART - B

10×5=50

Instructions : (1) Answer any FIVE questions.  
(2) Each question carries TEN marks.  
(3) Each answer should not exceed more than TWO pages.

- 11 (a) Explain Delta Modulation with block diagram. 5  
(b) List the advantages of Delta modulation over PCM. 5
- 12 (a) List the four digital signal encoding formats. 4 3  
(b) Explain NRZ and RZ line coding techniques with examples. 6
- 13 (a) Define error detection and correction in digital communication. 5 3  
(b) Explain the retransmission method of error correction. 5 1
- 14 Explain FSK modulator and demodulator with relevant block diagrams and waveforms.
- 15 Draw and explain BPSK modulator and demodulator with block diagram.
- 16 Explain the process of TDM and mention its applications. 5
- 17 Explain ISDN. 2
- 18 Explain the features of SS7 system in signaling.

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