



C14-EC-404

4458

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2016

DECE—FOURTH SEMESTER EXAMINATION

DIGITAL COMMUNICATION

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define information capacity of a channel.
2. Classify pulse modulation techniques.
3. List different error detection and correction techniques.
4. Define bit overhead and overhead efficiency.
5. Define bit rate and baud rate.
6. State the importance of constellation diagram.
7. State the need for modem in data communication.
8. Compare TDM and FDM.
9. Draw the topology of switched telephone networks.
10. List the advantages of electronic telephony over manual telephony.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11.** Explain the generation and demodulation of pulse amplitude modulation with block diagram and suitable waveforms.
- 12.** (a) Explain the process of quantisation with waveforms. 4
(b) Explain coding and decoding of PCM signal with block diagram. 6
- 13.** Explain the conversion between parallel and serial data.
- 14.** Explain amplitude shift keying modulation and coherent demodulation with block diagram.
- 15.** Explain QPSK and 8 PSK with constellation diagrams.
- 16.** Explain the process of time division multiplexing with block diagram.
- 17.** Explain CRC method of error detection with an example.
- 18.** Write a short note on internet telephony and mention its drawbacks.
