

**DIPLOMA - VIEP - ELECTRONICS AND
COMMUNICATION ENGINEERING (DECVI)**

Term-End Examination

December, 2015

BIEL-035 : DIGITAL COMMUNICATION

Time : 2 hours

Maximum Marks : 70

Note : Attempt five questions in all. All questions carry equal marks. Use of scientific calculator is permitted.

1. (a) Discuss in brief the advantages and disadvantages of digital communication. 7
- (b) State Hartley's law and prove the same. 7
2. (a) With neat sketches, discuss different pulse modulation techniques and compare them. 7
- (b) Discuss delta modulation with neat block diagram for its generation and detection. Also state the condition for occurrence of slope-overload condition. 7
3. With neat block diagrams of transmitter and receiver, explain the working of QPSK and DPSK. Also write their advantages and disadvantages. 14

4. What are the different line codes that are used for digital communication system ? Discuss their classification along with waveforms. 14
5. (a) Describe FDM and TDM multiplexing techniques. 7
- (b) Write down the salient features of CDMA technique. 7
6. (a) What is PN sequence ? Describe the properties of a PN sequence. 7
- (b) What is frequency hopping ? Compare slow and fast frequency hopping techniques. 7
7. Write short notes on any *two* of the following : 2×7=14
- (a) Spread Spectrum Characteristics
- (b) Hamming Code
- (c) DPCM
-