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BIEL-035

00285

DIPLOMA-VIEP ECE

Term-End Examination

June, 2012

BIEL-035 : DIGITAL COMMUNICATION

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt **any five** questions in all. Question **No. 1** is **compulsory**. All question carry **equal** marks.*

1. State whether the following are ***true*** or ***false***. **2x7=14**

(a) The Hartley law states that the maximum rate of information transmission depends on the channel bandwidth.

(b) PCM is a technique to change an analog signal to digital data.

(c) Line coding is the process of converting digital data to analog signal.

(d) PWM referred to as Pulse wide modulation.

(e) QAM uses two carriers, one in - phase and the other quadrature, with different amplitude levels for each carrier.

(f) CDMA referred to as code digit Multiple access.

(g) In DSSS technique, each data bit is assigned a code of n bit, called chips.

2. Define spread spectrum ? Explain model of spread spectrum modulation system. 14

3. What is TDM ? Explain TDM technique with the help of block diagram. 14

4. (a) What is the ASCII code ? How does it represent a character ? 8

   (b) Determine the parity bit for even parity system and odd parity system for these bit patterns. 6

   (i) 011101

   (ii) 011001

   (iii) 11001011

5. Draw block diagram of DPSK modulator and demodulator and explain their working. 14

6. (a) Explain 7

   (i) aliasing.

   (ii) natural and flat top sampling.

   (b) Explain difference between PAM, PWM and PPM. 7

7. (a) State and explain Shannon - Hartley Theorem. 7

   (b) Explain channel noise. What are its effects ? 7

8. Write short notes on *(Any four)* : **3.5x4=14**

(a) Advantages of Digital Communication

(b) PCM

(c) PSK

(d) Error detection and correction

(e) WDM

(f) Applications of spread spectrum modulation .