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BIEL-035

DIPLOMA – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (DECVI)

Term-End Examination

00645 **June, 2014**

BIEL-035 : DIGITAL COMMUNICATION

Time : 2 hours *Maximum Marks : 70*

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

1. State whether the following are True or False : *7×2=14*

(a) The Pulse Width Modulation (PWM) is also known as Pulse Length Modulation (PLM).

(b) Nyquist criterion for channel capacity is given as $C = B \log_{10} L$

where B = Bandwidth, and

L = Number of signal levels.

(c) Baud Rate and Bit Rate both are the same thing.

Choose the best answer for the following :

(d) The anti-aliasing filter is basically a

(i) band pass filter used for band limiting

(ii) low pass filter used as band limiting filter

(iii) high pass filter used as band limiting filter

(iv) None of these

(e) If the number of quantization levels in a PCM system is 64, then the number of bits per word will be

(i) 5

(ii) 7

(iii) 6

(iv) 8

(f) The dc level of which format is always zero ?

(i) Unipolar NRZ

(ii) Duobinary

(iii) Polar RZ

(iv) Manchester

(g) QPSK is a

(i) Multi level modulation

(ii) Single level modulation

(iii) Two level modulation

(iv) None of these

2. Discuss the various advantages and disadvantages of Digital communication in detail. *14*

3. (a) Explain the working of Adaptive Delta Modulation (ADM). *7*

(b) Differentiate between μ-law and A-law companding. *7*

4. (a) Draw the block diagram of FSK transmitter and receiver. 7

(b) What do you mean by DPSK ? How is it performed ? 7

5. Explain PCM transmitter and receiver with the help of suitable block diagram, and also describe the working of a PCM system. 14

6. (a) Compare ASCII and EBCDIC coding. 7

(b) What is CDMA ? Explain its working. 7

7. (a) Explain the model of spread spectrum modulation system. 7

(b) Differentiate between slow frequency and fast frequency hopping. 7

8. Write short notes on any ***four*** of the following :

$4 \times 3\frac{1}{2} = 14$

(a) Shannon-Hartley Theorem

(b) Channel noise and its effect

(c) Intersymbol Interference

(d) Correction using parity

(e) Channel coding

(f) PN sequence