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BIEL-032

01635

DIPLOMA - IN - ELECTRONICS AND COMMUNICATION ENGINEERING (DECVI)

Term-End Examination

June, 2012

BIEL-032 : Principles of Communication Engineering

Time : 2 Hours *Maximum Marks : 70*

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

1. Answer *TRUE* or *FALSE.* **7x2=14**

   (a) Modulation is used to reduce bandwidth.

   (b) In FM, the total transmitted power always remains constant, but with increased depth of modulation the required band - width is increased.

   (c) The standard IF value for AM receiver is 455 kHz.

   (d) Characteristics impedance of a loss less transmission line is resistive.

   (e) The radiation pattern of a parabolic antenna is omnidirectional.

   (f) High frequency waves are absorbed by the F_2 layer.

   (g) The main advantage of the pre - emphasis circuit in FM transmitter is to improve the SNR of the HSB frequencies.

2. (a) What is the need of modulation ? 7

(b) Differentiate between Simplex and Duplex communication system. 7

3. Explain generation of FM wave using Armstrong method with the help of neat block diagram and wave forms. 14

4. (a) Define Sensitivity, Selectivity and Fedility of AM radio receiver. 7

(b) Explain the need of AGC. What are its various types ? 7

5. (a) Describe the types of losses that may occur with transmission line. 7

(b) A lossless transmission line has a shunt capacitance of 100pF/m and a series inductance of 5μH/m. What is its characteristics impedance. 7

6. (a) What is half wave dipole antenna ? Explain in brief. 7

(b) Explain the characteristics of an antenna. 7

7. Describe ground wave propagation. What is the angle of tilt ? How does it affect field strength at a distance from the transmitter ? 14

8. Write short notes on (*any four*) : **4x3½ = 14**

(a) Duct Propagation

(b) Loop Antenna

(c) Balun

(d) FM Receiver

(e) Applications of Analog Communication.

(f) AM Transmitter