

No. of Printed Pages : 4    121042/31042/105942  
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**4th Sem. / Eltx/PE Comm.system**

**Subject : COMMUNICATION ENGINEERING**

Time : 3 Hrs.

M.M. : 100

**SECTION-A**

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) Over modulation of transmitter signal is corrected by the adjustment of the \_\_\_\_\_.
- b) Write two functions of Receivers.
  - c) What is squelch?
  - d) BEAM EFFICIENCY
  - e) FIDELITY
  - f) CRITICAL FREQUENCY
  - g) LOW LEVEL MODULATION
  - h) DIRECTIVITY
  - i) DELAYED ACG

(1) 121042/31042/105942

- j) WHAT IS A RECEIVER?
- k) RADIATION RESISTANCE
- l) APERTURE
- m) MUF - MAXIMUM USABLE FREQUENCY
- n) DEFINE SIGNAL FADING
- o) PROPAGATION
- p) TRANSMITTERS
- q) ANTENNAS
- r) END FIRE ARRAY

**SECTION-B**

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) Differentiate Low Level Amplitude Modulation from High Level Amplitude Modulation.
- ii) Explain the working of TRF Receiver.
  - iii) How radiation occurs from dipole?

(2) 121042/31042/105942

- iv) What are basic features Rhombic Antenna?
- v) Explain effective Aperture.
- vi) Explain Radiation Pattern.
- vii) Write a note on IONOSPHERIC PROPAGATION.
- viii) Explain Virtual Height with help of a diagram.
- ix) Draw block diagram of FM receiver.
- x) What are the factors determining the choice of IF in any communication system?
- xi) Write different applications of medium wave communication.
- xii) What are different layers above the surface of earth?
- xiii) Write a note on Horn antennas.
- xiv) An antenna has a radiation resistance of 74ohms, a loss resistance of 80 ohms. Determine the antenna efficiency.

(3) 121042/31042/105942

- xv) Classify transmitters on the basis of power.

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain the working of Armstrong FM transmitter. What are the advantages of Armstrong FM transmitter?
- Q.4 Explain different parts and their functions in superheterodyne receiver.
- Q.5 Write short note on following:
  - i) Ground wave propagation.
  - ii) Structure of Ionosphere.
- Q.6 Write short notes on following:
  - i) YAGI ANTENNA
  - ii) MICROWAVE ANTENNA
- Q.7 Explain duct propagation in detail, how it is better than sky wave propagation?

(3280)

(4) 121042/31042/105942