Total No. of printed pages = 3

**Et-501/CE-II/5th Sem/M/2013**

# COMMUNICATION ENGINEERING - II

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) Draw the circuit diagram of a ratio detector and explain its principle of operation. 10

   (b) Explain the working of a diode detector for AM signals with the help of a circuit diagram. 4

2. (a) Explain the working principle of an AM transmitter with a suitable block diagram. 10

   (b) Compare AM and FM systems. 4

3. (a) What is noise ? 2

[Turn over

(b) What are the different types of noise found in communication receivers ? 4

(c) Explain them briefly. 8

4. What do you mean by the term "superheterodyne principle" ? Draw the block diagram of an AM superheterodyne receiver and explain the working principle. 3+4+7=14

5. Explain with suitable waveforms about amplitude shift keying (ASK), frequency shift keying (FSK) and phase shift keying (PSK). 14

6. What is fading ? What are the different ways by which we can fight fading ? Describe any one method how to fight fading. 3+3+8=14

7. (a) Explain how an analog signal is converted to PCM signal. Also explain how the original signal is recovered back from the PCM signal. 5+5=10

(b) Mention some advantages of PCM. 4

8. (a) What is multiplexing ? 3

(b) What are the different types of multiplexing ? 3

(c) Explain any scheme of multiplexing with proper diagram. 8

9. Write short notes on any *two* : 7×2=14

(a) PWM and PPM

(b) SSB receiver

(c) VSB demodulator

(d) Characteristics of data transmission circuits.