Total No. of printed pages = 6

RETEST EXAMINATION – 2019

Semester : 5th (Old)

Subject Code : Et-501

COMMUNICATION ENGINEERING – II

Full Marks – 70

Time – Three hours

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

Instructions :

1. *All* questions of PART – A are compulsory.
2. Answer any *five* questions from PART – B.

PART – A

Marks – 25

1. Fill in the blanks with suitable words : 1×1=10

   (a) The _____ theorem gives the minimum sampling rate in TDM system.

   (b) Digital system use _____ bandwidth than analog system.

[Turn over

(c) PSK is used for _____ speed signalling.

(d) Synchronous detectors are basically used for detection of _____ signal.

(e) A pre-emphasis circuit is used before _____.

(f) _____ is the ability of the receiver to reject unwanted signal.

(g) PAM signal is recovered by using _____ filter.

(h) Superheterodyne principle provides selectivity at _____ stages.

(i) PWM signal can be generated by using _____ multivibrator.

(j) RF amplifier is a tuned _____ amplifier.

2. Write true or false : 1×10=10

(a) ASK modulation technique is mostly affected by noise.

(b) Armstrong modulator is a direct method of generating FM.

(c) Digital signals represent values as discrete steps.

(d) BFO is used to receive the telegraph signal.

(e) Noise generated in a resistor is also known as white noise.

(f) Limiter is not essential in Ratio detector.

(g) Diversity reception is used to improve receiver sensitivity.

(h) In TDM each multiplexed signal occupies the entire transmission bandwidth.

(i) PCM needs a small bandwidth.

(j) Mixer is also known as modulator.

3. Specify the correct answer : 1×5=5

(a) PPM is a

(i) linear modulation technique

(ii) digital modulation technique

(iii) analog modulation technique

(b) In a radio receiver AGC voltage is proportional to

(i) the amplitude of audio signal

(ii) the amplitude of IF carrier

(iii) the amplitude of carrier

(c) Modulation is done at

(i) receiver

(ii) transmitter

(iii) between transmitter and receiver

(d) Manmade noise are

(i) amplitude variations

(ii) phase variations

(iii) frequency variations

(e) Harmonic generators use

(i) Class A amplifiers

(ii) Class B amplifiers

(iii) Class C amplifiers.

PART – B

Marks – 45

4. (a) Write down the different types of AM and FM detector. 2

(b) List some difference between AM and SSB transmitter. 3

(c) Explain briefly with the help of block diagram the working of an FM transmitter. 4

5. (a) What is multiplexing ? Why is it used ? 2

(b) What are the different types of multiplexing ? 2

(c) Differentiate between TDM and FDM technique. 5

6. (a) What is superheterodyne receiver ? 1

(b) Explain briefly with block diagram the working of SSB receiver. 4

(c) Explain briefly the special features of a communication receiver. 4

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

(b) Classify the different types of pulse modulation. 3

(c) Explain PAM, PWM and PPM with suitable diagram. 4

8. (a) What is PSK ? 1

(b) Draw the block diagram of a binary PSK system and explain the functions of each block. 6

(c) Distinguish between FSK and PSK system. 2

9. (a) Explain in your own words the different characteristics of a data transmission circuit. 5

(b) Explain briefly the different types of codes used for data transmission. 4

10. Write short notes on any *three* : $3 \times 3 = 9$

(a) Diversity reception system

(b) Ratio detector

(c) Noise

(d) Pulse code modulation.