B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Third Semester

Branch—Information Technology

IT 010 305—PRINCIPLES OF COMMUNICATION ENGINEERING [IT]

[New Scheme—2010 Admission onwards]

(Supplementary)

Time : Three Hours Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 3 marks.

1. Enumerate the characteristics of communication channels.

2. Define modulation index. Write its significance.

3. Define PM. Write its advantages.

4. Define Noise. Write the types of noise.

5. State and explain sampling theorem.

(5 × 3 = 15 marks)

Part B

Answer all questions.
Each question carries 5 marks.

6. Explain the concept of superheterodyne receiver.

7. Explain the features and applications of VSB.

8. What is the need for pre and de-emphasis ?

9. Define Noise figure. Explain its significance.

10. Differentiate PPM from PDM.

(5 × 5 = 25 marks)

Turn over

Part C

Answer all questions.
Each question carries 12 marks.

11. Discuss the principle of microwave communication system with a neat block diagram.

Or

12. Differentiate TRF receiver from superheterodyne receiver. Explain the block schematic of TRF receiver in detail.

13. Derive the mathematical representation of AM wave. Explain with diagrams.

Or

14. Discuss DSB- SC modulation with diagrams.

15. Derive the mathematical representation of FM wave. Explain the features of FM wave with examples.

Or

16. Compare and contrast AM, FM and FM .

17. Derive the relation between noise figure and noise temperature. Explain the terms.

Or

18. Define and explain the characteristics of receivers, in detail.

19. Explain a method to generate PPM from PLM with a neat diagram.

Or

20. Write technical notes on :

    1. DPCM.

    2. PAM.

(5 × 12 = 60 marks)