PVP 14

Code: EC4T5

II B.Tech - II Semester–Regular/Supplementary Examinations–April 2018

ANALOG COMMUNICATIONS
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22M

1. a) What is modulation? Explain the need of Modulation.

   b) List out the Limitations of AM(DSB-FC).

   c) Find out the modulation Index of an AM wave, if its Max. Amplitude is 75V and Min. Amplitude is 15V. Identify the type of modulation.

   d) Differentiate NBFM & WBFM

   e) What is Frequency division multiplexing?

   f) Define selectivity and Fidelity.

   g) Define figure of merit.

   h) What is the significance of Pre-emphasis in FM?

   i) What is Pulse Width Modulation?

   j) What is Threshold effect?

   k) Compare TDM & FDM.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Draw the spectrum of single tone AM wave giving necessary mathematical equation. 8 M

   b) Explain the Demodulation of AM wave with envelope detector. 8 M

3. a) Explain the Generation of DSB –SC with necessary expression and spectral representation. 8 M

   b) What is the need of VSB modulation and explain the Generation VSB signal with necessary expressions & spectral representation. 8 M

4. a) Describe the generation of WBFM signal using indirect method. 8 M

   b) Explain the working of Foster-seeley discriminator? 8 M

5. a) Derive an expression for SNR at the output for coherent reception with SSB modulation. 8 M

   b) Explain the working of a superhetrodyne AM Broadcast receiver. 8 M

6. a) Explain generation and demodulation of PAM. 8 M

b) What is Multiplexing. Explain in detail about Time Division Multiplexing. 8 M