

**B.Tech. 4th Semester (ECE) F-Scheme Examination,  
May-2018**

**COMMUNICATION SYSTEM**

**Paper-EE-206-F**

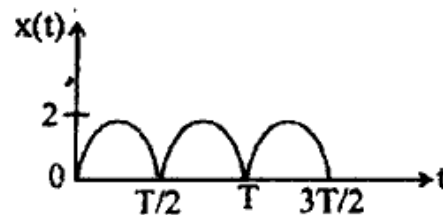
*Time allowed : 3 hours ] [ Maximum marks : 100*

*Note : Question No. 1 is compulsory. Attempt any one question from each section.*

- 1. (a) Explain even and odd signals. 5
- (b) Discuss the types of communication system. 5
- (c) State PCM techniques with its disadvantages. 5
- (d) Define :
  - (i) Shot Noise
  - (ii) Thermal noise 5

**Section-A**

- 2. (a) Draw the block diagram of communication system and explain function of each block. 10
- (b) Discuss in brief about classification of signals with suitable examples. 10
- 3. (a) Obtain Fourier series representation of wave form :



- (b) Discuss in brief about multiplexing and demultiplexing techniques. 10

**Section-B**

- 4. Define amplitude modulation and derive the equation for
  - (i) Modulation Index
  - (ii) Transmitted power
 Compare it with angle modulation also. 20
- 5. (a) Derive the equation for square law method for generation of AM wave. 10
- (b) Draw and explain working of Ratio detector method for demodulation of signal. 10

**Section-C**

- 6. (a) State Sampling theorem and derive its equations. 10
- (b) Derive the equation for flat top sampling technique with suitable diagram. 10
- 7. (a) Draw and explain working and generation of PPM signals. 10
- (b) Explain detection of PWM signals with suitable wave diagram. 10

**Section-D**

8. (a) Explain ASK Modulation technique. How it differ with amplitude modulation. 10
- (b) Compare various digital modulation technique. 10
9. (a) Explain the following :
- (i) SNR
- (ii) Noise figure
- (iii) Atmospheric noise
- (b) What is Noise ? Explain Internal noise in detail. 10

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