**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

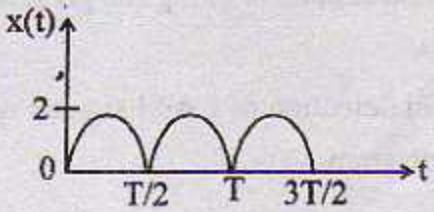
   (ii) Thermal noise 5

**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