

B.Tech. (EEE) 4th Semester F-Scheme

Examination, May-2019

## PRINCIPLES OF COMMUNICATION SYSTEM

Paper-EE-220-F

Time allowed : 3 hours]

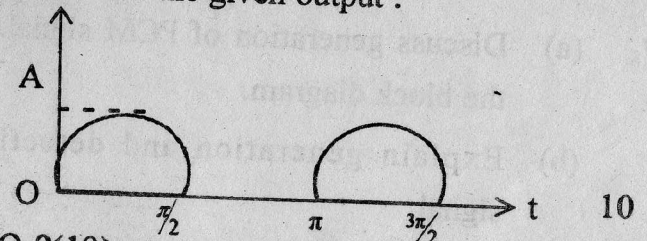
[Maximum marks : 100

Note : Attempt five questions in total. All questions carry equal marks. Question No. 1 is compulsory. Attempt one question from each unit.

1. (a) What is the importance of unit signals in communication system ?
- (b) Give out advantage of SSB signal.
- (c) Why PAM is not used for radio communication ?
- (d) Explain noise factor.
- (e) Give out advantages of DM. 5×4=20

## Unit-I

2. (a) Enumerate the essentials of communication system. Draw the block diagram and explain function of each block. 10
- (b) Carry out the Fourier analysis of half wave rectifier for the given output :



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[P. T. O.]

3. (a) Give out classification of various signals. 10  
 (b) Explain FDM and TDM techniques. 10

### Unit-II

4. (a) State Amplitude modulation and derive the mathematical equation for single tone amplitude modulated signal. 10  
 (b) Draw the block diagram for generation of SSB signal. Also give out its limitations. 10
5. (a) Discuss Frequency demodulation using Foster-Seeley method. 10  
 (b) How FM can be generated using PM and vice-versa? 10

### Unit-III

6. (a) State and prove sampling theorem. 10  
 (b) Draw the wave diagram and working of PWM demodulator. 10
7. (a) Discuss generation of PCM signal. Also draw the block diagram. 10  
 (b) Explain generation and detection of DM signal. 10

### Unit-IV

8. (a) Explain generation of FSK signal. Derive the equation and draw the block diagram. 10  
 (b) Discuss demodulation of QPSK signal. 10
9. (a) How M-ary PSK signal is generated? 10  
 (b) Write briefly about external noise. Also discuss Noise figure. 10