

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

Examination, May-2019

COMMUNICATION SYSTEM

Paper-EE-206-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) Tabulate the differences between FDMA and TDMA.
- (b) Enumerate advantages of FM over AM.
- (c) Discuss PCM regenerator circuit.
- (d) Explain how PC to PC data communication is carried out ?
- (e) Give out advantages and limitations of SSB AM. 5×4=20

Unit-I

2. (a) Draw block diagram of communication system and explain working of each block. 10
- (b) Why modulation is required in communication systems ? Discuss in details. 10

3. (a) Give out advantages and limitations of various wireless communication modes of propagation. 10
- (b) Enumerate and discuss fundamental limitations of communication system. 10

Unit-II

4. (a) Derive the mathematical equation of single tone AM signal and also establish relationship between transmitted power and modulation index. 10
- (b) Discuss generation of DSBSC signal by balance modulator method using diodes. 10
5. (a) Discuss how NBFM signal can be generated using PM and *vice versa*. Also draw necessary block diagram. 10
- (b) Draw the block diagram of FM receiver using balanced slope detector method and explain working of the circuit. 10

Unit-III

6. (a) State and prove sampling theorem. 10
- (b) Draw the diagram of PWM demodulator and explain its working. 10

7. (a) Draw the diagram of PCM Transmitter and explain its working. 10
- (b) Explain Delta modulation technique and give out its advantages and disadvantages. 10

Unit-IV

8. What do you understand by noise ? How it interfere with communication systems ? Discuss in details its types and also calculate the Noise figure.
9. Write briefly about the following : 10,10
- (a) QPSK Receiver
- (b) BPSK generator