



CBCS SCHEME

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15MT82

Eighth Semester B.E. Degree Examination, Aug./Sept.2020 Communication System

Time: 3 hrs.

Max. Marks: 80

Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.

ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Communication. Explain basic communication model. (08 Marks)
- b. What is modulation? Explain the need for modulation. (08 Marks)
- 2 a. What is bandwidth? Explain the bandwidth requirements of audio, video, fiber optic and multimedia communication. (08 Marks)
- b. Explain basic signal processing operations in digital communication system. (08 Marks)

Module-2

- 3 a. Define Amplitude modulation with a suitable equation. Explain switching modulator with circuit diagram and graph. (08 Marks)
- b. Explain envelope detector with circuit diagram and waveform. (08 Marks)
- 4 a. Explain Ring Modulator with a neat figure. (08 Marks)
- b. With a neat block diagram and necessary equation, explain coherent detection of DSBSC modulated wave. (08 Marks)

Module-3

- 5 a. Define phase modulation with suitable equation. Explain the generation of a narrow band FM signal with a neat block diagram. (08 Marks)
- b. Define frequency modulation with suitable equation. Explain indirect method of generating a FM signal with a neat block diagram. (08 Marks)
- 6 a. Define FM stereo multiplexing with neat figure. (08 Marks)
- b. Write a note on :
 - (i) Phase locked loop (04 Marks)
 - (ii) Non linear effects in FM systems. (04 Marks)

Module-4

- 7 a. Define TDM. Explain TDM with a neat figure. (08 Marks)
- b. With DPCH transmitter and receiver with neat block diagram. (08 Marks)
- 8 a. Explain the basic element of a PCM system with a neat block diagram. (08 Marks)
- b. Write a note on:
 - (i) Bi Polar RZ with a waveform. (04 Marks)
 - (ii) Manchester code with a waveform. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. Explain the generation of pseudo noise sequences with the help of feedback shift register. (08 Marks)
- b. Explain direct sequence spread spectrum with coherent binary PSK using a neat diagram. (08 Marks)
- 10 a. Explain frequency hop spread M-ary frequency shift keying with neat diagrams. (08 Marks)
- b. Write the classification of multiplexers explain FDM with neat figure. (08 Marks)
