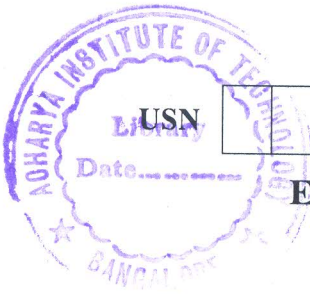


CBCS SCHEME



USN

--	--	--	--	--	--	--	--	--	--

15MT82

Eighth Semester B.E. Degree Examination, June/July 2019 Communication System

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With neat block diagram explain the each element of a communication system. (08 Marks)
b. Define modulation. Explain the need for modulation in various applications. (08 Marks)

OR

- 2 a. With the neat block diagram, explain the digital communication system. (06 Marks)
b. Derive an equation for sampling theorem. (10 Marks)

Module-2

- 3 a. With necessary equation and diagram, explain the AM in time domain. (08 Marks)
b. Define amplitude modulation. Explain and analyze how the square law modulator generates an AM wave. (08 Marks)

OR

- 4 a. Give the comparison of various modulation techniques. (04 Marks)
b. With neat diagram and waveform and necessary equations, explain the envelop detector. (06 Marks)
c. Explain ring modulator with the neat diagram and waveform. (06 Marks)

Module-3

- 5 a. Explain the important properties of Angle modulated wave. (05 Marks)
b. Derive an expression for wide band FM with the waveform. (05 Marks)
c. Derive an expression for demodulation of FM signal. (06 Marks)

OR

- 6 a. With the help of block diagram, explain the working of FM stereo multiplexing. (05 Marks)
b. Explain the non linear model of PLL with relevant block diagram and derivations. (06 Marks)
c. Explain non linear effects in FM systems. (05 Marks)

Module-4

- 7 a. With the relevant equations explain PAM. (08 Marks)
b. With the neat block diagram explain DPCM transmitter and receiver. (08 Marks)

OR

- 8 a. What are the types of quantization errors which occur in DM? Explain with neat sketch and equation. (08 Marks)
b. Explain unipolar RZ and NRZ codes and polar RZ and NRZ. (08 Marks)

Module-5

- 9 a. Explain the properties of pseudo noise sequence. (04 Marks)
b. Explain the direct sequence spectrum. (05 Marks)
c. With the neat block diagram explain coherent BPSK. (07 Marks)

OR

- 10 a. Explain frequency hopping spread spectrum. (08 Marks)
b. What are the digital multiplexers types and explain TDM. (08 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.