

# SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E. / B. Tech – CSE/IT

Title of the paper: Principles of Communication Engineering

Semester: III

Max. Marks: 80

Sub.Code: 11307/12307 (2004/2005)

Time: 3 Hours

Date: 22-04-2007

Session: AN

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## PART – A

(10 x 2 = 20)

Answer ALL the Questions

1. What are the limitations of AM?
2. List the merits and demerits of SSB.
3. What is meant by FM threshold reduction?
4. What are the demerits of simple slope detector?
5. State sampling theorem.
6. Mention the application of PCM.
7. What is meant by coherent detection?
8. Write the probability of error equation for QPSK.
9. Define the term entropy.
10. State channel capacity theorem.

## PART – B

(5 x 12 = 60)

Answer All the Questions

11. Explain the principle of superhetrodyne radio receiver with neat block diagram.

Or

12. Describe the generation of SSB using filter method.
13. Explain the generation of FM using indirect method.

Or

14. Draw the block diagram of FM receiver and explain the function of each block.

15. Describe the principle of Time division multiplexing.

Or

16. Explain the generation and demodulation of pulse width modulation.

17. Compare the performance of various digital modulation systems.

Or

18. Write short notes on

(i) Inter symbol interference (ISI)

(ii) Generation of PSK

(iii) Probability of error

19. Describe the principle of direct sequence spread spectrum technique.

Or

20. A discrete memoryless source has an alphabet of seven symbols whose probabilities of occurrence are as follows:

Symbol	s1	s2	s3	s4	s5	s6	s7
Probability		0.3	0.2	0.125	0.125	0.0625	0.0625

Compute the Huffman code.