

# 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)/6C0046

Time: 3 Hours

Date: 01-05-2008

Session: AN

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PART – A

(10 x 2 = 20)

Answer All the Questions

1. Write the expression and draw the spectrum of AM signal.
2. What is the power saving in DSBSC and SSB- SC AM?
3. Define Modulation index in FM.
4. Give the merits and demerits of ratio detector.
5. What is Nyquist rate?
6. What is Manchester Encoding?
7. Define Data rate and Signalling rate.
8. What is the eye pattern? What is its significance?
9. Define Entropy.
10. What is the fundamental concept of spread spectrum?

PART – B  
Answer All the Questions

(5 x 12 = 60)

11. Explain the double side band wave generation using Balanced Modulation.  
(or)
12. Explain the working of envelope detector.
13. Explain the direct method of FM generation.  
(or)
14. Draw the diagram of Foster-Seely discriminator and explain its operation.
15. What is quantization? Derive an expression for quantization error.  
(or)
16. Explain the operation of TDM and Compare it with FDM.
17. Explain in detail the coherent binary modulation of FSK.  
(or)
18. Explain the error probability performance of binary signaling.
19. Derive Channel Capacity Theorem.  
(or)
20. How are PN sequences generated? Explain frequency hopping spread spectrum.