

B.E. (Part Time) Degree Examinations, April / May 2007

Information Technology

Second Semester

PTEC 295 – PRINCIPLES OF COMMUNICATION

Time: 3 Hours

Max. marks: 100

Answer ALL questions

PART-A**(10X2=20 marks)**

1. Define modulation index. What is its significance?
2. State the importance of sensitivity and selectivity of a receiver.
3. What is pre-emphasis? How is it used to improve the S/N of FM transmissions.
4. Specify the purpose of the pilot carrier in an FM stereo signal.
5. Give the difference between bit rate and baud rate.
6. What is an eye diagram.
7. State sampling theorem and specify its importance.
8. What is DPSK? What advantage does it have over ordinary PSK?
9. Distinguish between time switching and space switching.
10. Compare frequency hopping and direct-sequence spread spectrum systems.

PART-B**(5X16=80 marks)**

- 11.(i) What is meant by aliasing? What are the disadvantages of it? (4)
- (ii) Describe the adaptive equalization technique. (6)
- (iii) Explain quadrature sampling. (6)
- 12.(a)(i) With suitable block diagram explain the functions of superheterodyne receiver. Specify the importance of Image frequency.
- (ii) For a standard broadcast AM receiver tuned to a station at 1320 KHz, determine the image frequency.

OR

- 12.(b) Explain in detail the generation of Double side band suppressed carrier.
- 13.(a) What is indirect FM? Explain the method of its generation with suitable circuit diagram.

OR

- 13.(b) What is the difference between AM and FM receiver. Describe the working of a general broadcast receiver.

- 14.(a)(i) What is the difference between FSK, ASK and GMSK. (4)
- (ii) Explain the function of a quadrature DPSK? (4)
- (iii) Describe the construction and functions of various MODEMS. (8)

OR

- 14.(b)(i) Compare the different digital modulation schemes listing their advantages of disadvantages. (8)
- (ii) What is DPSK? What advantage does it have over ordinary PSK. (4)
- (iii) What factors limit the maximum data rate for a channel. (4)
- 15.(a)(i) Describe CDMA and compare it with TDMA. (10)
- (ii) Describe the spread spectrum systems. (6)

OR

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- 15.(b)(i) Describe any one source coding technique. (6)
- (ii) Explain about Pseudo-noise. (4)
- (iii) Explain binary PSK scheme. (6)
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