

25/11/16 FN

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Question Paper Code : 35624

5 Year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Third Semester

Information Technology

XCS 244/10677 SW 404 — PRINCIPLES OF DATA COMMUNICATION

(Common to 5 Year M.Sc. Software Engineering and Computer Technology)

(Regulations 2003/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Sampling in Data Communication?
2. Define Amplitude Modulation.
3. State Shannon theorem.
4. What is the significance of convolution coding?
5. List out the Transmission impairments.
6. What is interfacing?
7. What is FSK?
8. Differentiate analog and digital signal.
9. Define flow control.
10. Mention any two versions of ARQ.

PART B — (5 × 16 = 80 marks)

11. (a) Explain about the Amplitude Modulation in detail. (16)

Or

- (b) Write short notes about the following :

(i) Sampling (8)

(ii) Quantisation error. (8)

12. (a) (i) What is burst error? State the reasons for burst errors and explain the techniques to overcome error bursts. (12)
(ii) Discuss on convolution decoding. (4)

Or

- (b) Describe any three commonly employed Algebraic codes. (16)
13. (a) What are the three guided transmission media? Discuss the physical description, applications and transmission characteristics of each. (16)

Or

- (b) (i) Discuss asynchronous and synchronous transmission. (8)
(ii) Describe the functional specifications of V.24/EIA-232-F interface standard. (8)
14. (a) Discuss the types of biphas encoding in Network. (16)

Or

- (b) (i) Discuss the digital to analog modulation methods and its basic issues. (8)
(ii) How is QAM related to ASK and PSK? What is the major factor that makes PSK superior to ASK? (8)
15. (a) Explain the following with examples :
(i) Pulse Code Modulation (PCM)
(ii) Delta Modulation. (16)

Or

- (b) What SNR ratio is required to achieve a bandwidth efficiency of 1.0 for ASK, FSK, PSK and QPSK? Assume that the required bit error rate is 10^{-6} . (16)