Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 21378

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Third Semester

Computer Science and Engineering

CS 2204/CS 36/EC 1207/080230008/10144 CS 305 — ANALOG AND DIGITAL COMMUNICATION

(Regulations 2008/2010)

(Common to 10144 CS 305 – Analog and Digital Communication for
B.E. (Part-Time) Second Semester — CSE – Regulations 2010)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define amplitude modulation.

2. What is digital communication?

3. Give the Shannon's capacity formula.

4. What are PLL's?

5. Suggest one valid cause for ISI.

6. Differentiate a analog signal with a digital signal.

7. What is the function of a modem?

8. What are the standard serial and parallel interfaces used?

9. Define the term processing gain.

10. How are the pseudo noise sequence generated?

PART B — (5 × 16 = 80 marks)

11. (a) Differentiate AM and FM interms of all parameters. (16)

Or

(b) Derive the expression for a frequency modulated wave. Comment on modulation index of FM, frequency deviation and frequency analysis of the same. Give relevant diagrams. (16)

12. (a) With the neat diagrams, explain the FSK transmitter and receiver and its bandwidth requirement. (16)

Or

(b) Explain any two techniques involved in carrier recovery. Give diagrams. (16)

13. (a) In detail, explain the concept of pulse code modulation. Give its significance over delta modulation. (16)

Or

(b) Conceptually explain the adaptive delta modulation with differential pulse code modulation. Analyse their advantages and limitations. Give figures. (16)

14. (a) With the neat diagrams, explain the various types of modems. (any 3). Also suggest a suitable technique for modem control. (16)

Or

(b) Give a detailed overview on data communication codes including error detection and connection codes. (16)

15. (a) In detail, describe the DS spread spectrum with a coherent binary PSK. Give necessary diagrams. Comment on BER performance. (16)

Or

(b) Give detailed notes on :

(i) FM spread spectrum. (8)

(ii) CDMA in wireless systems. (8)

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