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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 71169

M.E./M.Tech. DEGREE EXAMINATION, JUNE/JULY 2013.

First Semester

Communication Systems

CP 9211/CP 911/CU 912/10244 CM 103 — MODERN DIGITAL COMMUNICATION TECHNIQUES

(Common to M.E. Computer and Communication, M.E. – Digital Electronics and Communication Engineering and M.Tech. Information and Communication Technology)

(Regulation 2009/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List any two advantages of constant envelope modulation.

2. What is the need for MSK?

3. What is cyclic extension?

4. Why is scrambling needed?

5. Distinguish between orthogonal and biorthogonal codes.

6. What is BCH code?

7. What is the use of representing codes using polynomial?

8. What is the difference between tree diagram and Trellis diagram?

9. What is a bandlimited channel?

10. List the needs of equalizer.

PART B — (5 × 16 = 80 marks)

11. (a) With relevant diagrams explain GMSK.

Or

(b) Distinguish between coherent and noncoherent detection of BFSK.

12. (a) With a neat diagram explain OFDM signal processing.

Or

(b) Discuss on different PAP reduction schemes.

13. (a) State Shannon's channel coding theorem. Derive the channel capacity.

Or

(b) With a neat diagram, explain direct sequence and frequency hopping spread spectrum system.

14. (a) Explain the Viterbi algorithm in detail.

Or

(b) With an example, explain Turbo coding.

15. (a) Distinguish between ISI and controlled ISI. Explain methods to overcome ISI.

Or

(b) Explain the decision feedback and adaptive equalization algorithms.

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