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

Question Paper Code : 11238

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fifth Semester

Electrical and Electronics Engineering

080280046 – COMMUNICATION ENGINEERING

(Common to 080280036 – Communication Engineering, for B.E. (Part-Time) Fourth Semester, Electrical and Electronics Engineering)

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate AM and FM.
2. Draw a pre-emphasis circuit.
3. Compare QPSK and MSK systems.
4. What is slope overload error?
5. What is information rate?
6. Draw the NRZ and RZ waveform for the pulse stream 11101100
7. What is multiplexing?
8. What are the advantages of SDMA?
9. What is geosynchronous orbit?
10. What are the types of Optical Fibers?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the advantages of DSB modulation technique? Explain any one method of DSB generation (8)

(ii) Explain the working of envelope detector (8)

Or

(b) (i) Explain the Super heterodyne receiver. (8)

(ii) Explain the Armstrong method of FM generation (8)

12. (a) (i) State and prove sampling theorem. (6)

(ii) Explain the generation of PWM and PPM waves. (10)

Or

(b) (i) Explain the principle of DM and ADM (8)

(ii) Explain the concept of PCM and DPCM technique in data communication. (8)

13. (a) (i) Explain about convolution encoding. (8)

(ii) Five symbols of alphabet of discrete memoryless source and their probabilities are given below: S = {S0,S1,S2,S3,S4}

P(S) {0.4, 0.2,0.2,0.1,0.1). Code the symbols using Huffman coding (8)

Or

(b) Explain about coding and decoding process of block codes. (16)

14. (a) Discuss in detail about TDMA and FDMA techniques. (16)

Or

(b) Discuss in detail about CDMA technique and compare its performance with TDMA and FDMA. (16)

15. (a) (i) Explain the satellite system link model. (8)

(ii) Explain the multiple access techniques used in satellite communication (8)

Or

(b) (i) With neat sketch explain the various blocks and its functionalities of a fiber optic communication system (8)

(ii) Write the characteristics of sources and detectors used in optical communication. (8)
