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Question Paper Code: 31547

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fifth Semester

Electrical and Electronics Engineering

01UEC523 – COMMUNICATION ENGINEERING

(Common to EIE and ICE)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List two major limitations of amplitude modulation.
2. Classify the frequency modulation depending upon the value of modulation index.
3. Relate the signal frequencies and bit rate in minimum shift keying modulation.
4. What is the main difference between DPCM and DM?
5. When will entropy function have its maximum value?
6. Why cyclic codes are well suited for error detection?
7. Give the advantages of CDMA.
8. Define spread spectrum.
9. State the advantages of fiber optic system.
10. Tell about apogee and perigee.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Draw the block diagram for the generation and demodulation of a VSB signal and explain the principle of operation. (12)

(ii) Distinguish between WBFM and NBFM. (4)

Or

(b) (i) Compare the features of FM with AM. Also write the merits and demerits of FM. (6)

(ii) An FM transmitter has a power output of 10 W. If the index of modulation is 1.0, determine the power in the various frequency components of the signal. (10)

12. (a) (i) List out the various pulse modulation schemes and explain PAM. (12)

(ii) How does flat top sampling differ from natural sampling? (4)

Or

(b) Explain in detail about FSK. (16)

13. (a) Briefly discuss on various error control codes with an example. (16)

Or

(b) Encode the data 01001110 using NRZ, RZ, AMI coding. (16)

14. (a) Explain in detail about time division multiple access. (16)

Or

(b) (i) Compare various multiple access techniques used in wireless communication. (6)

(ii) Explain in detail about space division multiple access technique. (10)

15. (a) (i) Explain the block diagram of an optical fiber communication system. (12)

(ii) Give the comparison of the LED and LASER. (4)

Or

(b) (i) What are the benefits of satellite communication systems. (4)

(ii) List and discuss the various orbits defined for satellite communication. (12)