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

Question Paper Code: 55423

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

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. Tell about apogee and perigee.
10. What is SCADA?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the generation of FM signal using reactance modulator with neat diagram. (16)

Or

(b) (i) Illustrate the generation of SSB-SC using phase shift method. (8)

(ii) Explain the working principle of Armstrong transmitter. (8)

12. (a) Explain in detail about FSK. (16)

Or

(b) Explain BFSK modulation scheme with transmitter and receiver block diagrams. (16)

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

Or

(b) A rate 1/3 convolution encoder has generating vectors as $G1$ = (1 0 0), $G2$ = (1 1 1), $G3$ = (1 0 1).

(i) Sketch the encoder configuration.

(ii) Draw the code tree, state diagram and trellis diagram.

(iii) If input message sequence is 10110, determine the output sequence of the encoder. (16)

14. (a) Discuss in detail the concept of TDMA and SDMA and their applications in wire and wireless communication. (16)

Or

(b) Narrate the concept of slow frequency hopping and sast frequency hopping with a neat sketch. (16)

15. (a) (i) Explain the block diagram of an optical fiber communication system. (10)

(ii) Give the comparison of the LED and LASER. (6)

Or

(b) Brief the concepts of SCADA. (16)
