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Question Paper Code: 54049

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fourth Semester

Electronics and Instrumentation Engineering

15UEC423 - COMMUNICATION ENGINEERING

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

- Balanced modulator is not used in the generation of
(a) AM (b) DSB-SC (c) SB-SC (d) VSB
- Which of the following pulse modulation is digital
(a) PAM (b) PPM (c) PCM (d) PWM
- Identify the number of redundant bits in a (7, 4) block code.
(a) 1 (b) 2 (c) 3 (d) 4
- The multiple access technique used in spread spectrum communication is
(a) FDMA (b) TDMA (c) CDMA (d) SDMA
- Population inversion is a property found in
(a) LED (b) LASER (c) PIN photo diode (d) APD

PART - B (5 x 3 = 15 Marks)

- Sketch the frequency spectrum of an AM.
- State sampling theorem.
- List the properties of an entropy.
- Recall the advantages of a CDMA technique.

10. Compare the types of sources used in an optical fiber.

PART - C (5 x 16 = 80 Marks)

11. (a) Illustrate the working principle of an AM superhetrodyne radio receiver. (16)

Or

(b) Explain the phase shift method of SSB-SC generation using necessary expressions. (16)

12. (a) Draw the block diagram of a DPCM transmitter and receiver and explain. (16)

Or

(b) Sketch the block diagram of a BPSK transmitter and explain its operation. (16)

13. (a) With neat block diagrams and example describe in detail about linear block codes and convolutional codes. (16)

Or

(b) Explain the steps involved in Shannon-fano coding with suitable example. (16)

14. (a) Discuss the types of spread spectrum modulation techniques with neat diagrams. (16)

Or

(b) Explain TDMA along with its features. (16)

15. (a) Illustrate the types of multiple access arrangements used in satellite communication and explain. (16)

Or

(b) Explain the construction and working of light detectors used in fiber optic communication. (16)
