

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 54423

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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)

- Vestigial sideband modulation (C3F) is normally used for
 - HF point-to-point communications
 - monoaural broadcasting
 - TV broadcasting
 - stereo broadcasting
- Which of the following pulse modulation is digital
 - PAM
 - PPM
 - PCM
 - PWM
- If the errors are corrected at _____ end/s, it is known as 'Forward Error Correction' (FEC).
 - Transmitter
 - Receiver
 - Both a and b
 - None of these
- The multiple access technique used in spread spectrum communication is
 - FDMA
 - TDMA
 - CDMA
 - SDMA
- Which type of fiber optic cable is most widely used?
 - Single-mode step-index
 - Multimode step-index
 - Single-mode graded-index
 - Multimode graded-index

PART - B (5 x 3 = 15 Marks)

- Sketch the frequency spectrum of an AM.
- Calculate the capacity of a standard 4 KHz telephone channel with a 30 dB signal to noise ratio.

8. List the properties of an entropy.
9. Recall the advantages of a CDMA technique.
10. Define Geo synchronous satellite.

PART - C (5 x 16 = 80 Marks)

11. (a) Discuss in detail about the working of a SSB transmitter and 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) With a neat block diagram explain the PCM modulation and demodulation. (16)

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

Or

- (b) (i) Draw the polar, unipolar, bipolar, bipolar (AMI), split phase and Manchester NRZ line code format for an information {10 1 1 0 0 0 1 1 1 0}. (10)

- (ii) Write the properties of entropy. (6)

14. (a) Describe the structure of Code Division Multiple Access. (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 types and multiple access techniques in satellite communication. (16)