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

Question Paper Code: 34405

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fourth Semester

Electronics and Communication Engineering

01UEC405 – ANALOG COMMUNICATION

(Regulation 2013)

Duration: 1:45 hour Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. List any two advantages and disadvantages of analog communication.
2. Distinguish between DSB-SCAM and SSB-SC-AM.
3. Draw the phasor diagram of FM signal.
4. Differentiate narrow band FM and wideband FM.
5. Write down the equation for time-averaged autocorrelation function.
6. Write the expression for the expectation of a continuous random variable X having a density function f(x).
7. Define and give the relationship between noise bandwidth and 3-db bandwidth.
8. Define pre-emphasis and De-emphasis.
9. Define Sampling theorem.
10. Define quantization error.
11. Define Amplitude Modulation.
12. Give a note on non-linear distortion.
13. Define frequency deviation.

14. Define modulation index of an FM.

15. Write down the equation for time-averaged autocorrelation function.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Explain with the suitable diagrams the generation of AM using square law modulator and degeneration of AM using envelope detector. (10)

17. Explain any one type of generation and demodulation of FM signal. (10)

18. Consider a sinusoidal signal $X(t) = A\cos(2\pi f_c t + \theta)$.Assume θ is a random variable t hat is uniformly distributed over the interval $[-\pi, \pi]$. Find auto correlation. (10)

19. Derive the expression of noise in DSB-SC system using coherent detection. (10)

20. Describe time division multiplexing scheme with a typical example. (10)