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

Question Paper Code: 53405

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Electronics and Communication Engineering

15UEC305- ANALOG COMMUNICATION

(Regulation 2015)

Duration: 1:15hrs Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The minimum channel bandwidth is used by which modulation technique? CO1- R

   (a) VSB (b) SSB - SC (c) DSB - SC (d) AM

2. Time division multiplexing is used in CO1- R

   (a) analog circuit (b) digital circuit (c) modulation circuit (d) multiplier circuit

3. What is the disadvantage of FM over AM? CO2- R

   (a) High modulating Power is needed (b) Required high output power

   (c) Large bandwidth required (d) High noise is produced

4. In wideband FM system, the output signal to noise ratio increases CO2-R

   (a) Linearly as the bandwidth (b) as the square root

   (c) as the square of the bandwidth (d) as the cube of the bandwidth

5. What is the probability density function of thermal noise? CO3- R

   (a) Gaussian (b) Poisson (c) Binomial (d) Bessel

6. Gaussian process is a CO3- R

   (a) Wide sense stationary process (b) Strict sense stationary process

   (c) both a and b (d) none of these

7. De-emphasis circuit is used _____. CO4- R

   (a) Before decoding (b) After decoding (c) Before detection (d) After detection

8. The use of pre-emphasis and de-emphasis in an FM systemimproves the noise performance over CO4- R

(a) the entire frequency range (b) medium range of frequency only

(c) lower frequency modulation (d) higher frequency range

9. Which among the following is the drawback of pulse position modulation? CO5- R

(a) The transmission power is not constant

(b) Synchronization is required between receiver and transmitter

(c) Amplitude is constant

(d) Instantaneous power of PPM modulated signal is constant

10. In pulse amplitude modulation CO5- R

(a) Amplitude of the pulse train is varied (b) Width of the pulse train is varied

(c) Frequency of the pulse train is varied (d) None of these

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Explain with suitable diagrams the generation of AM using square law method. CO1- U (8)

12. Derive an expression for a single tone FM signal with necessary diagrams and draw its frequency spectrum. CO2- U (8)

13. Explain the following terms: mean, correlation and covariance. CO3- U (8)

14. With a neat block diagram, explain the function of super heterodyne receiver. CO4- U (8)

15. With neat sketches, explain about uniform quantization. CO5- U (8)