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Question Paper Code: 44405

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

Fourth Semester

Electronics and Communication Engineering

14UEC405 - ANALOG COMMUNICATION

(Regulation 2014)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define Amplitude Modulation.
2. Distinguish between DSB-SCAM and SSB-SC-AM.
3. Define modulation index of an FM.
4. Write the advantages and disadvantages of FM compared to AM.
5. State central limit theorem.
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. How can measure the Quantization error?
10. State the two corrective measures to combat the effects of Aliasing.
11. The carrier amplitude after modulation varies between 4V and 1V. Calculate the modulation depth.
12. State the Carson's rule.
13. Define Gaussian processes.

14. What is pre-emphasis and de-emphasis?

15. Compare PAM, PPM, PWM.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Explain the low-level and high-level modulation methods with help of figures. (10)
17. Draw the circuit diagram of Foster-Seeley discriminator and explain its working. (10)
18. Define and explain about auto correlation and cross correlation and its properties. (10)
19. Explain about shot noise, thermal noise and white noise process with suitable diagram. (10)
20. Explain the Generation and Demodulation procedure for PAM signal. (10)