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Question Paper Code : 50493

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023

Third/Fourth Semester

Electronics and Communication Engineering

EC 8491 – COMMUNICATION THEORY

(Common to: Computer and Communication Engineering/Geoinformatics Engineering)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Draw illustrative spectrums of DSB-SC and AM signals.
2. Write the modulation technique used for analog TV broadcasting system.
3. Compute the bandwidth requirement for a 15 kHz signal frequency modulated with modulation index of 5.
4. Comment on the output of frequency multiplier while FM signal is applied at its input.
5. What is meant by WSS process?
6. Comment on correlation between two random processes if they are independent.
7. If a system has 10 dB noise figure, compute its noise equivalent temperature.
8. What is threshold effect of AM receivers?
9. A signal has 100 Hz and 200 Hz components. If it is sampled at rate equal to 4 times that of Nyquist rate, determine the sampling rate.
10. Write the application on μ -law in communication systems.