

Alok Kumar

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-1 EXAMINATION- February -2019

B.Tech. IV Semester

COURSE CODE: 17B11EC412

MAX. MARKS: 15

COURSE NAME: Analogue and Digital Communications

COURSE CREDITS: 04

MAX. TIME: 1 HRS

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*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

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- Q.1 Explain the block diagram of communication system. What are the various types of channels used in communication system? Explain with suitable diagram. [4]
- Q.2 Why we analyzed the signal in frequency domain? Explain two properties of Fourier Transform. [3]
- Q.3 Derive the relationship between the total transmitted power and carrier power of an AM system, for three frequencies simultaneously modulate a carrier. A carrier signal having 10V peak to peak amplitude is amplitude modulated by three different modulating frequencies with peak amplitude levels of 2V, 3V, and 4V respectively. Compute the modulation index of the resultant complex AM signal. [3]
- Q.4 Explain the working of generation of SSB-SC modulator with the help of Hilbert transform. [3]
- Q.5 Find out the percentage power saving in SSB-SC with respect to full AM when modulation index is 30%. [2]