Department Of Electronics and Communication Engineering
National Institute Of Technology, Hazratbal
Mid Sem Examination, Spring 2019

Course: B.Tech – CSE
Subject: Communication System
Max Marks: 30

Semester: IV
Duration: 1.5 Hours

Note: All questions are compulsory. Draw diagrams wherever necessary.

CO-1

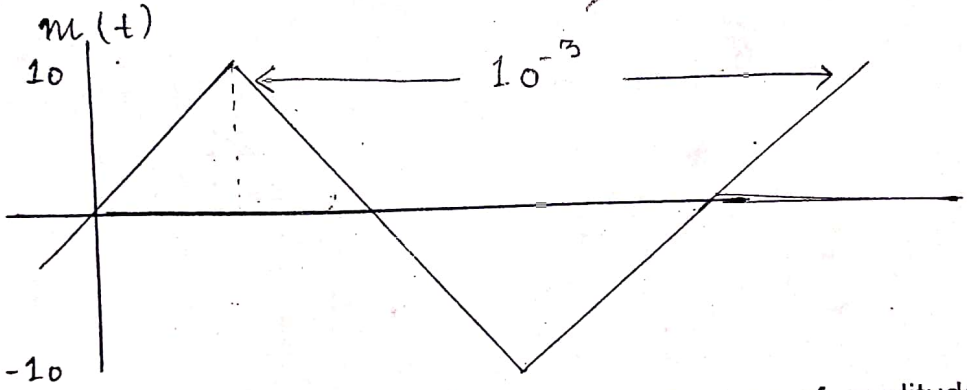
Q1. (a) What do you mean by quadrature null effect? How can you achieve the phase lock condition in the recovery of DSB-SC signal. Explain with the help of circuit diagram.

(b) For each of the following signals (i) m(t)=Cos1000t (ii) m(t)=Cos1000tCos3000t
Sketch the spectrum of m(t)
Sketch the spectrum of DSB-SC signal m(t)Cos10000t

[6, 4]

CO-2

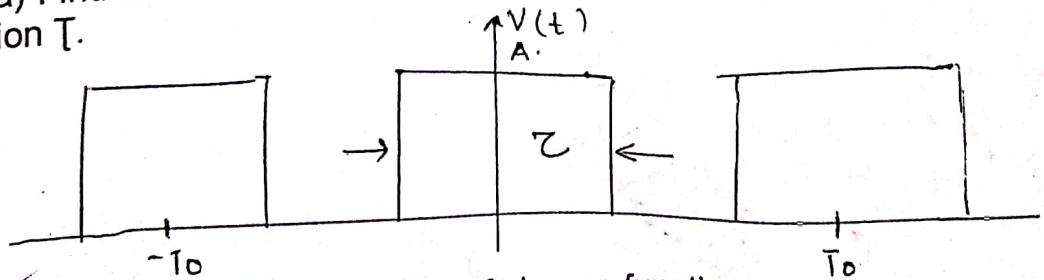
Q2. (a) What do you understand by amplitude modulation? How can you achieve DSB-C demodulation using envelope detection?
(b) Sketch the AM signal [A + m(t)]Cosωt for the periodic triangular signal m(t) (shown in fig 1) corresponding to modulation index (i) μ=0.5 (ii) μ=1 (iii) μ=2



[4, 6]

CO-1

Q3. (a) Find the fourier coefficients of the periodic train of pulses of amplitude A and duration T.



(b) Calculate the fourier transform of signum function.

[5, 5]

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