B.Tech II Year 4rth Semester

Branch ECE

Subject : Communication System **CT-1st Paper**

Time : 1 Hour **M.M : 20**

Note : Attempt All question

Que 1: Sketch the waveform for AM modulated signal $\phi_{AM}(t)$ for modulation indices of μ =0.5 and μ =1,

When message signal m(t)=bcos ω_mt. Determine η and the percentage of the total power carried by the sidebands of the AM wave for tone modulation when μ =0.5 and μ =0.3. (5)

Que 2: Describe Vestigial Sideband (VSB) with the help of appropriate waveform and block diagram. Also drive the relationship between equalizer filter at the receiver output $H_o(f)$ and vestigial shaping filter that produces VSB from DSB output $H_i(f)$. (5)

Que 3: What are the different technique for DSB Amplitude Modulation? Explain Ring Modulator with diagram. (5)

Que 4: Draw the block diagram for Quadrature Amplitude Modulation (QAM) with appropriate derivation show how two message signals are recovered at receiver end. (5)