Unit - II

2. a) Sketch a schmitt trigger circuit and explain its working principle. **(8)**

   b) Explain how amplitude and frequency stability are improved in an oscillator. **(8)**

Or

2. a) Explain Bar Khausen criteria in brief. **(6)**

   b) Find the operating frequency of a Hartley oscillator if $L_1 = 100\mu H$ and $L_2 = 1mH$; Mutual inductance between coil $\mu = 20\ \mu/H$ and $C = 20$ PF. **(10)**

Unit - III

3. a) Explain and Draw the differential Amplifier with Darling ton connection, and also explain the DC Analysis. **(8)**

   b) Give ideal versus Achial characteristics of OP-AMP. **(8)**

Or

3. a) The input signal Vi to an Op-Amp is 0.03 sin 1.5×10^5 t. What can be the maximum gain of an op-amp with flow rate of 0.4 v/μsec. **(8)**

   b) Explain in brief five application of Op- Amp? **(8)**

Unit - IV

4. a) A ten bit D-A converter has a step size of 10mA. Find its maximum full scale output current and percent resolution. **(8)**

   b) Explain series and shunt voltage regulators in brief. **(8)**

OR

4. a) Draw and explain internal structure of IC-555 timer? **(8)**

   b) Explain performance measures of Regulated Power supply. Also give basic Aspects of Power Supply Characteristics. **(8)**

Unit - V

5. a) A class B transformer coupled Amplifier is to supply 4W to a 10Ω load. Available supply voltage Vcc = 30V. The transformer coefficiency is 75%. Specify the output transistor and output transformer. **(10)**

   b) Explain non linear distinction in Power Amplifier. **(6)**

OR

5. Write short notes on (any **two**) **(8+8)**

   a) Quari-complementary symmetry amplifier.

   b) Transformer coupled Audio Power Amplifier.

   c) Higher order harmonic generation in Power Amplifier.