1. Design a unbalanced circuit in order to determine differential mode gain, and plot the output voltage for a input of 2mV(p-p) at frequency of 1Khz .

b) Design a common mode circuit in order to determine differential mode gain, and plot the output for a input of 12.5mv (p-p) at a frequency of 1Khz.

c) Determine the differential mode characteristics for Re=2KΩ, and R1=1KΩ, and R2=1KΩ and plot the output wave form for AC & DC analysis.

d) Perform a differential circuit as a inverted , Non inverting amplifier and common mode operation for a input of 2mv (p-p) to determine the dc output response.

2. Design a two stage RC coupled amplifier to determine Gain and Bandwidth at a frequency of 60Khz and a input voltage of 1mv(p-p) and also verify the voltage across the collector and emitter terminal of transistor and plot the AC analysis output.

3. Design Darlington amplifier and determine Gain and Bandwidth for a input of 5mv(p-p) and define the Ac analysis .

4. Generate a output signal of a Hartley oscillator by design tank circuit with an Vcc = 5V.

5. Generate a output signal of a Hartley oscillator by design tank circuit with an Vcc = 5V.