EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Assignment, Fall 2024 Semester

Course: **Electronic Circuits (CSE251/ICE213)**
Full Marks: **15**
Time: **1 Hour 10 Minutes**

1. From the circuit of **Figure 1** determine the currents and voltages of each branch. Considering R2 as load find the load line. Sketch the waveform for the voltage across R2 if the source voltage V1 is a $60Hz$ sinusoid of $10V$ peak amplitude. [CO2, C3, Mark: 5]

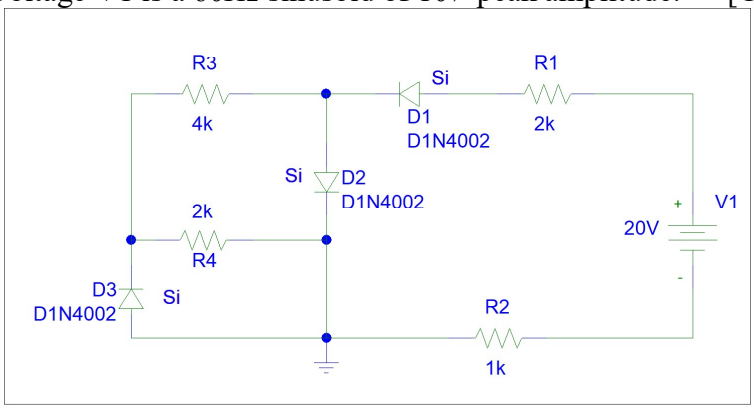

Figure 1

2. Determine, $I_B, I_C, V_C, and\ V_B$ for the circuit of **Figure 2**. Show the DC load line analysis and write what type of biasing the following circuit represents. [CO2, C3, Mark: 5]

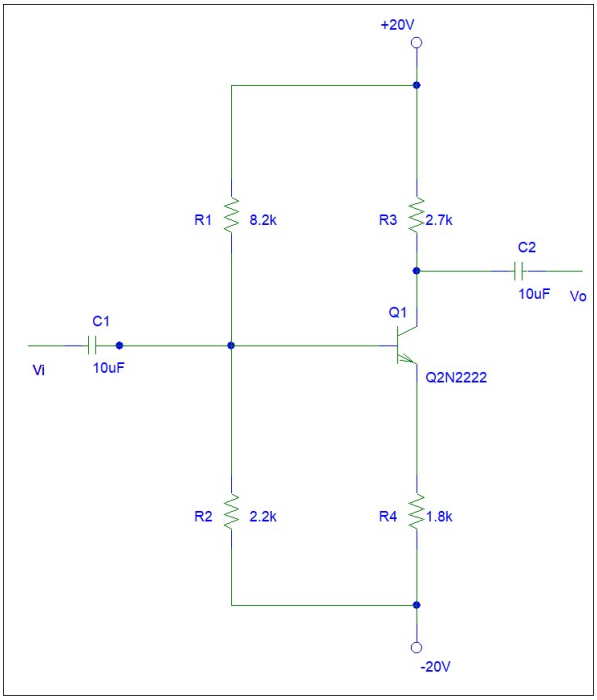

Figure. 2

3. Consider the ideal op-amp circuit in **Figure 3**. (a) Derive the expression for V_o as a function of V_{I1} and V_{I2}. (b) Find V_o for V_{I1} = +0.25 V and V_{I2} = −0.40 V. [CO2, C3, Mark: 5]

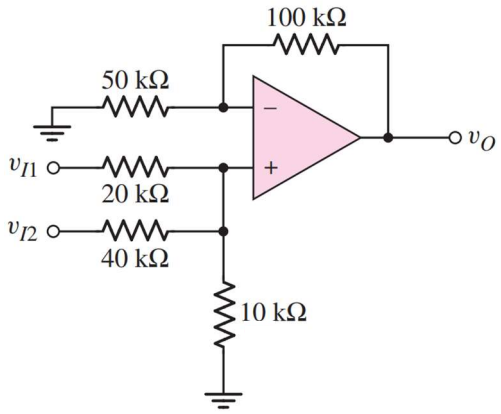

Figure. 3