ABES Engineering College, Ghaziabad

Session: 2023-24 Semester: I Course Code: BEC-101

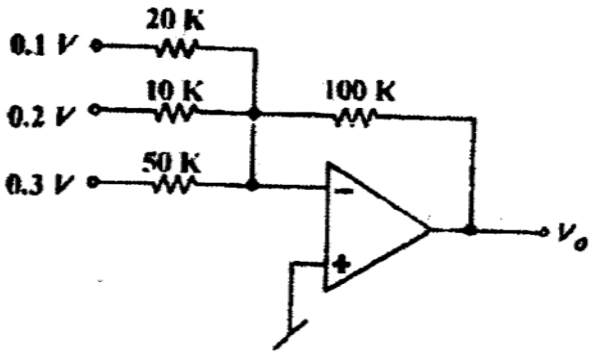
Course Name: Fundamental of Electronics Engineering

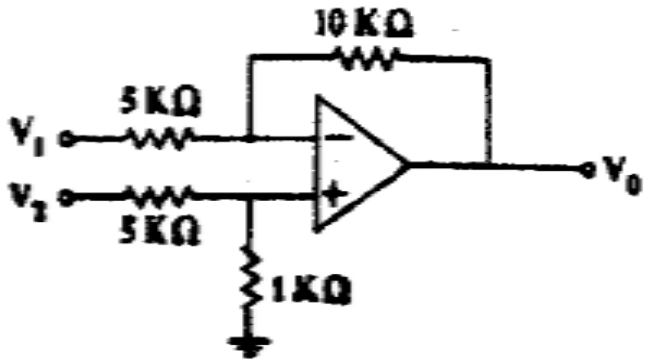
Assignment -5

Q1. An opamp has a differential gain of 10^3 and CMRR of 100. Input voltages are 120μV and 80 μV. Determine the total output voltage.

Q2. Describe the ideal characteristics of op-amp.

Q3. Find the output voltage for the following circuits:





Q4. Derive the gain for the Inverting Amplifier.

Q5. Derive the gain for the Non-Inverting Amplifier.

Q6. Write a short note on Voltage Follower.

Q7. Derive the expression of output voltage as:

i. Integrator

ii. Differentiator

Q8. Explain the working of differential amplifier using BJT in differential and common mode.

Q9. Design the following amplifier circuits using opamp with gain of 20. The value of resistances should not exceed beyond 40 KΩ:

i. Inverting amplifier

ii. Non-inverting amplifier

Q10. Find the output voltage for the following circuits: