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| Course Name: | **Elements of Electrical and Electronics Engineering** | **Semester:** | **I/II** |
| **Date of Performance:** |  | **Batch No:** |  |
| **Faculty Name:** |  | **Roll No:** |  |
| **Faculty Sign & Date:** |  | **Grade/Marks:** | **/ 25** |

**Experiment No: 10**

**Title:** **Inverting and Non-inverting amplifier using OPAMP**

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| **Aim and Objective of the Experiment:** |
| * To understand the open loop configuration of OPAMP * To understand the concept of negative feedback and closed loop configuration of OPAMP. * To understand inverting and Non-inverting amplifier of OPAMP * To find gain of inverting and non-inverting amplifiers |

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| **COs to be achieved:** |
| **CO5:** Understand operational amplifier and its applications |

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| **Circuit Diagram/ Block Diagram:** |
| **Pin diagram of IC 741**    Pin Configuration of 741 Op-amp Diagram    **1. Inverting Amplifier**    **2. Non-inverting Amplifier**    **Observation Table:**  **1. A. Inverting Amplifier: DC input Voltage**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sr.No.** | **Vin (V)** | **Vout (V)** | **Practical**  **Gain = Vout/Vin** | **Theoretical**  **Gain=-RF/R1** | | **1.** |  |  |  |  | | **2.** |  |  |  |  | | **3.** |  |  |  |  |   **1. B. Inverting Amplifier: AC input Voltage**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Sr.No.** | **Frequency (Hz)** | **Vin(p-p) (V)** | **Vout(p-p) (V)** | **Practical**  **Gain = Vout/Vin** | **Theoretical**  **Gain=-RF/R1** | | **1.** |  |  |  |  |  | | **2.** |  |  |  |  |  | | **3.** |  |  |  |  |  |   **2. A. Non-inverting Amplifier: DC input Voltage**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sr.No.** | **Vin (V)** | **Vout (V)** | **Practical**  **Gain = Vout/Vin** | **Theoretical**  **Gain=1+RF/R1** | | **1.** |  |  |  |  | | **2.** |  |  |  |  | | **3.** |  |  |  |  |   **2. B. Non-inverting Amplifier: AC input Voltage**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Sr.No.** | **Frequency (Hz)** | **Vin(p-p) (V)** | **Vout(p-p) (V)** | **Practical**  **Gain = Vout/Vin** | **Theoretical**  **Gain=1+RF/R1** | | **1.** |  |  |  |  |  | | **2.** |  |  |  |  |  | | 3. |  |  |  |  |  |   **Post Lab Subjective/Objective type Questions:**  1. List the characteristics of Ideal operational amplifier.  2. List the important parameters of IC 741 operational amplifier. |

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| **Conclusion:** |
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| **Signature of faculty in-charge with Date:** |