






**SRI PADMAVATI MAHILA VISVA VIDYALAYAM  
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**SCHOOL OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**


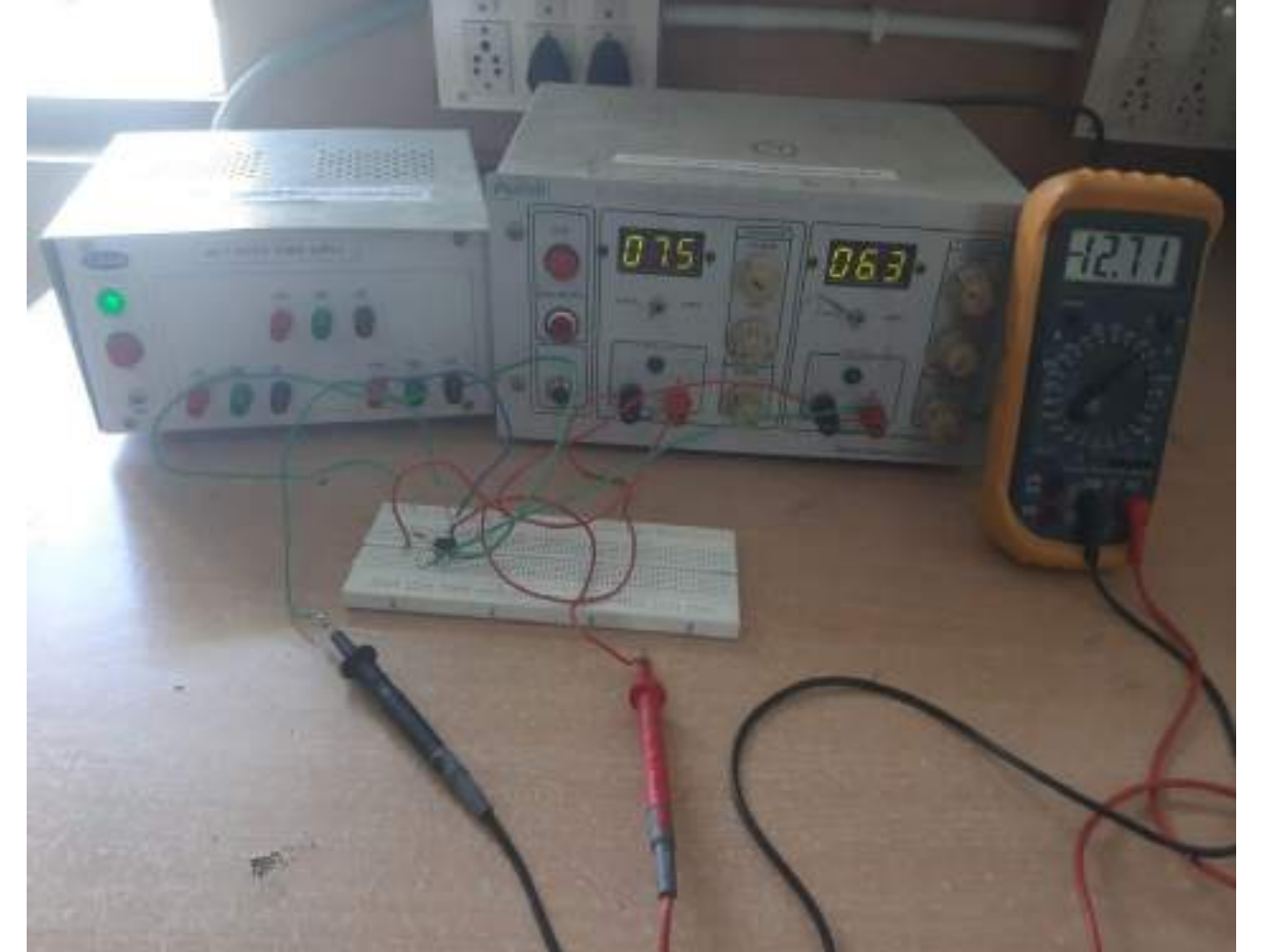

**IC APPLICATIONS LABORATORY**

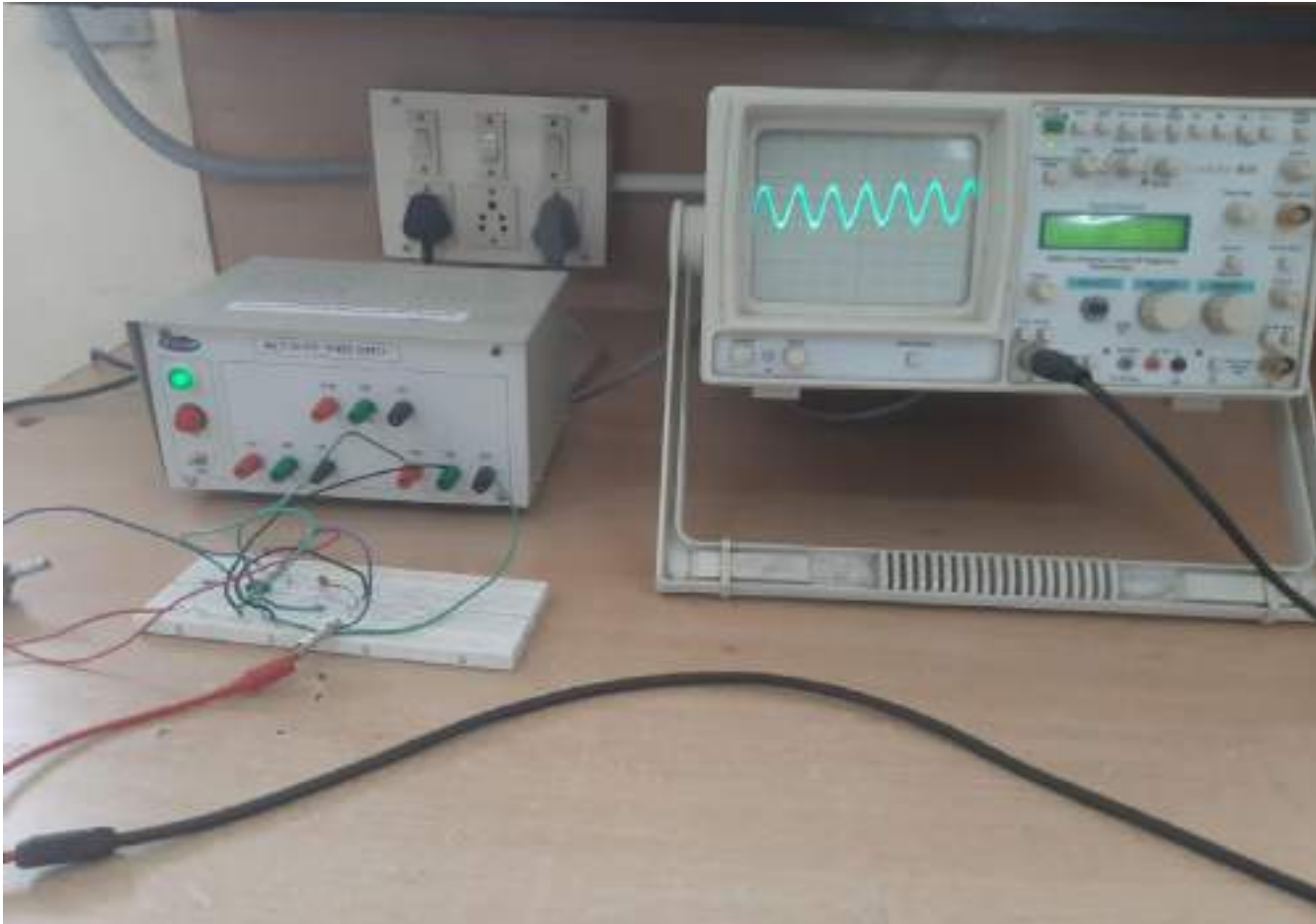


**DETAILS OF EQUIPMENTS USED IN ICA LAB**

| S.No. | Equipment/<br>Experiment Name                        | Equipment Description                                                                                                                                                                                                                | Photograph                                                                            | Usage                            |
|-------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------|
| 1     | <b>Digital storage oscilloscope: 70MHz bandwidth</b> | Used for testing signal voltage in circuit debugging. It stores and analyses the signal digitally rather than using analog techniques. It is used in advanced triggering storage display and in measurements                         |   | I yr to IV yr labs for ECE & EEE |
| 2     | <b>Function generator (3MHz)</b>                     | It can produce various patterns of voltage at a variety of frequencies and amplitudes. It is used to test the response of the circuits to a known input signal. It allows generating sine, square or triangular ac function signals. |  | I yr to IV yr labs for ECE & EEE |
| 3     | <b>Regulated Power supply (0-30V)</b>                | It converts unregulated ac into a constant dc. It is used to supply a stable voltage to a circuit that must be operated within certain power supply limits                                                                           |  | I yr to IV yr labs for ECE & EEE |
| 4     | <b>Analog IC power supply</b>                        | It is used to supply an analog voltage of (-15v-0-+15V)                                                                                                                                                                              |  | I yr to IV yr labs for ECE & EEE |
| 5     | <b>Digital IC power supply</b>                       | It is used to supply an digital voltage of (5V)                                                                                                                                                                                      |  | I yr to IV yr labs for ECE & EEE |

**DETAILS OF EXPERIMENTS CONDUCTED IN ICA LAB**

| S.No. | Name of the Experiment         | Experiment Description                                                                        | Experiment Photograph with connections                                               |
|-------|--------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1     | <b>INTEGRATOR USING IC 741</b> | <b>Doing integrator operation using IC 741 and checking outputs for sine and square waves</b> |  |

|   |                                                                                                                                                                                                                        |                                                                                                                                               |                                                                                      |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 2 | <p><b>IC Applications using IC 741</b></p> <p>(a) <b>Inverting amplifier</b></p> <p>(b) <b>Non-Inverting amplifier</b></p> <p>(C) <b>Adder</b></p> <p>(d) <b>Subtractor</b></p> <p>(d) <b>Difference amplifier</b></p> | <p>Doing all arithmetic operations using IC741 and comparing the results with theoretical and practical values</p>                            |    |
| 3 | <p><b>Comparator using IC 741</b></p> <p>(a) <b>Inverting Comparator</b></p> <p>(b) <b>Non-Inverting comparator</b></p>                                                                                                | <p>Comparing the inputs that applied between inverting and non inverting terminals and verifying it with theoretical and practical values</p> |   |
| 4 | <p><b>4bit R-2R Ladder Network using IC 741</b></p>                                                                                                                                                                    | <p>Design of 4 bit R-2R ladder network using IC 741 and comparing the results with theoretical and practical values.</p>                      |  |

|    |                                                          |                                                                                                                                       |                                                                                      |
|----|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 5  | <b>Weinbridge Oscillator</b>                             | <b>Design of weinbridge oscillator using IC 741 and generating sinusoidal waveform</b>                                                |    |
| 6. | <b>Astable and Monostable multivibrators using IC741</b> | <b>Generating square waveform using Astable multivibrator using IC741 and generating a pulse wave using Monostable multivibrator.</b> |   |
| 7. | <b>Schmitt Trigger using IC741</b>                       | <b>Design of Schmitt trigger using IC 741 and generating square wave from sine wave input</b>                                         |  |

