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**PART ONE - Overview**

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| i | Vision of the Department |

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| ii | Mission of the Department |

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| iii | Program Outcomes |

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| iv | Course Outcomes |

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* Xxxxxxx
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| v | Laboratory Code of Conduct |

Students need to comply with the following code of conduct:

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|  | Report to the concerned labs as per the timetable |
|  | Certify the journal after completion of the experiment from course practical instructor. |
|  | Adhere to batch division made in the beginning. |
|  | Collect the components required for the experiment from the concerned Lab Assistant. |
|  | Disconnect the setup after completion of the experiment is completed; return all the components/instruments taken for the purpose. |
|  | Any damage of the equipment or burnout of components will be viewed seriously by putting penalty. |
|  | Presence in the labs needed for the total scheduled duration. |
|  | Maintain the procedure sheets/data sheets neatly and return it after the experiment. |
|  | Maintain discipline in the laboratory at all times. |
|  | Enter your details in the Login register every time you come to the lab. |
|  | No eatables and water bottles allowed in the lab. |
|  | No bags allowed in the lab. Leave it outside the lab on the rack. |
|  | Take care of your personal belongings. The staff is not responsible for loss of personal items. |
|  | Use of Mobile Phones is STRICTLY PROHIBHITED in the lab. Anyone caught using his or her cell phone in the laboratory; it will be confiscated and handed over to the principal. |
|  | Do not litter in the lab. Throw pencil flakes in the dustbin. |
|  | Do not scribble on the desk. |
|  | Do not take the laboratory manual out of the lab. Do not damage the laboratory manual by writing on it and tearing the pages. |
|  | Do not take photographs of the laboratory manual. |

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| **vi** | **Laboratory Safety Instructions** |

Adhere to the instructions mentioned below for the safety purpose:

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|  | **Electrical Shock:**  Avoid contact with conductors in energized electrical circuits. Just 100 mA of current passing through the chest is usually fatal. Muscle contractions can prevent the person from moving away while being electrocuted. Do not come in contact physically with someone who is being shocked. Instead, turn OFF the main MCB (Red Color). This shuts off all power, except the lights. Make sure your hands are dry. The resistance of dry, unbroken skin is relatively high and thus reduces the risk of shock. Skin that is broken, wet or damp with sweat has a low resistance. When working with an energized circuit, work with only your right hand, keeping your left hand away from all conductive material. This reduces the likelihood of an accident that results in current passing through your heart. Be cautious of rings, watches, and necklaces. Skin beneath a ring or watch is damp, lowering the skin resistance. Shoes covering the feet are much safer than sandals. If the victim is not breathing, find someone certified in CPR. If the victim is unconscious or needs an ambulance, contact the Department Office for help or call 108 for examination and treatment. |
|  | **Fire:**  Transistors and other components can become extremely hot and cause severe burns if touched. If resistors or other components on your proto-board catch fire, turn off the power supply and notify the instructor. If electronic instruments catch fire, turn OFF the main MCB (Red Color). These small electrical fires extinguish quickly after the power is off. Avoid using fire extinguishers on electronic instruments. |
|  | **Explosion:**  When using electrolytic capacitors, be careful to observe proper polarity and do not exceed the voltage rating. Electrolytic capacitors can explode and cause injury. |

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| **vii** | **Laboratory File Guidelines** |

Adhere to the laboratory file guidelines to maintain proper and structured record:

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|  | Use descriptive headings to separate and identify the various parts of the experiment. |
|  | Record data in chronological order. |
|  | Heading: The experiment identification (number) should be at the top of each page. |
|  | Diagram: Relevant diagrams should be drawn and labeled. Record all circuit changes made during the experiment. |
|  | Equipment List: List those items of equipment that have a direct effect on the accuracy of the data. |
|  | Procedure: In general, lengthy explanations of procedures are unnecessary. Be brief. Short commentaries alongside the corresponding data may be used. Keep in mind the fact that the experiment must be reproducible from the information given in your file. |
|  | Data: Think carefully about what data is required and prepare suitable data tables. Directly record the instrument readings. Do not use calculated results in place of direct data. However, record calculated results in the same table with the direct data. Identify the data tables, label each data column, and head it with proper units of measure. |
|  | Calculations: Not always necessary but equations and sample calculations illustrate the treatment of the experimental data in obtaining the results. |
|  | Graphs: Plot data presented in graphical form to check any questionable data during the experiment set up. Give all graphs a short descriptive title. Label and scale the axes. Use units of measure. Label each curve if more than one on a graph. |
|  | Results: Present numerical results in a graphical form that makes the interpretation easy. Present small amount of results in a tabulated form. Present theoretical and experimental results on the same graph or arrange in the same table easy for correlation of these results. |
|  | Conclusion: This is your interpretation of the results of the experiment as an engineer. Be brief and specific. Give reasons for important discrepancies. |
|  | Certify after successfully completion of the performance of experiments in a semester and submit to the department the certified laboratory file. |

**PART TWO – List of Experiments**

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| --- | --- | --- |
| **1** | **Experiment 1**  **xxxxxxxxxxxxxxxxxxxxxx** | **CO** |
| **Title:** | | |
| **Estimated time to complete this experiment** (in hours) : 2hrs | | |
| **Objective:** | | |
| **PEO to be achieved:** | | |
| **Expected Outcome of Experiment:** | | |
| **Books/ Journals/ Websites referred:** | | |
| **Pre Lab/ Prior Concepts:** | | |
| **Historical Profile:** | | |
| **New Concepts to be learned:** | | |
| **Requirements:** | | |
| **Software and Hardware Required:** | | |
| **Diagram / Flow Chart:** | | |
| **Explanation/ Stepwise-Procedure/ Algorithm:** | | |
| **Observations:** | | |
| **Conclusion:** | | |
| **Real Life Application:** | | |
| **Viva Questions:** | | |
| **Post Lab Questions:** | | |