SUBJECT TITLE : BASIC ELECTRONICS LAB
SUBJECT CODE : 2049
COURSE CATEGORY : B
PERIODS/WEEK : 3
PERIODS/Semester : 45/2
CREDITS : 2

EXERCISES

Upon completion the students will be able*:*

1. To identify passive components - Resistors, Capacitors, Inductors, Transformers and LED and Familiarize Breadboards.

2. To identify various types of electronic instruments - Ammeters, Voltmeters, Multimeters (Analog and Digital), Function Generators, Power Supply and CRO.

3. To measure the Amplitude, Time Period and Frequency Values of a Sine Wave Using CRO.

4. To measure voltage at various settings (low and high voltage) of regulated Power supply by using Analog and Digital Multimeters.

5. To measure resistance of resistors using Multimeters and compare it with Colour Code Value.

6. To test an Electrolytic Capacitor Using a Multimeter.

7. To identify the Package Type, Terminals and Characteristic Ratings of Various Types of Diodes Using Data Sheet.

8. To test a Diode using a Multimeter.

9. To plot VI characteristics of a Silicon Diode (Forward and Reverse) and determine the Static and Dynamic Resistances and Knee Voltage.

10. To plot VI characteristics of a Germanium Diode (forward) and Determine the Static and Dynamic Resistances and Knee Voltage.

11. To plot VI characteristics of a Zener Diode (reverse) and Determine the Breakdown Voltage.

12. To setup of a half wave rectifier with and without filter and plot the input / Output Voltages and Calculate the Ripple Factor.

13. To setup of a centre tapped rectifier with and without filter and plot the input / output voltages and calculate the ripple factor.

14. To setup of a bridge rectifier with and without filter and plot the input / output voltages and calculate the ripple factor.

15. To setup a voltage regulator using zener diode and plot the regulation characteristics.

16. To construct a voltage doubler (half-wave and full wave) and measure the output.

17. To construct a voltage tripler and measure the output.

18. To setup different slicer circuits (clipper) and plot the output.

19. To setup different level shifting circuits (clamper) and plot the output.

20. To identify the package type, terminals and characteristic ratings of various types of transistors using data sheet

21. To test transistors using multimeter.

22. To plot the input and output characteristics for a transistor in common emitter configuration and determine current gain, input and output resistance.