SUBJECT TITLE : **BASIC ELECTRONICS LAB**
(Common for EL, EC, EP, EA, TE, AE, BM, MD, CT, CM, IF)

SUBJECT CODE :
PERIODS/WEEK : **3**
PERIODS/YEAR : **54**
CREDITS : **2**

EXERCISES

1. Identification of passive components: Resistors, Capacitors, Inductors, Transformers, Thermistors, LED and LDR & familiarization of breadboards.
2. Identification of various types of Electronic Instruments: Ammeters, Voltmeters, Multimeters (Analog and Digital), Function Generators, Power Supply and CRO.
3. To observe a Sine wave on a CRO and draw it indicating all its values: Amplitude, Time Period and Frequency.
3. Measurement of voltage at various setting (Low and high voltage) of regulated Power supply by using Analog & Digital Multimeters
5. Measurement of voltage and current by loading the regulated Power Supply.
6. Measurement of Resistors by Multimeters and Compare with Colour code value .
7. Check an Electrolytic Capacitor using a Multimeter
8. Identification of Package type and Terminal familiarisation with characteristics & Rating using data sheet for various type of Diodes.
9. Checking of Diode using a Multimeter
10. Draw the V-I characteristics (Forward and Reverse) of a silicon Diode. Determine the static and dynamic resistance
11. Draw the V-I characteristics (Forward) of a Germanium Diode. Determine static and dynamic resistance.
12. Plot the V-I characteristics of Zener diode. Determine the Breakdown voltage
13. Measure and Plot the Input/Output voltages of a half wave rectifier with and without filters. Calculate Ripple Factor .
14. Measure and plot the Input/Output voltages of a centre tapped rectifier with and without filters. Calculate Ripple Factor.
15. Measure and Plot the Input/Output voltages of Bridge Rectifier with and without filters. Calculate Ripple Factor
16. Plot the wave shapes of a full wave rectifier with shunt capacitor, series inductor and π section filter. Measure voltages
17. Setup a voltage regulator using Zener Diode.
18. Construct a voltage doublers and observe the output .
19. Construct a voltage Trippler and observe the output .
20. Set up different slicer circuits (clipper) and observe the output .
21. Set up different level shifting circuits (clamper) and observe the output .
22. Identification of Package Type & Terminals familiarization with characteristic & Rating using data sheet for transistors
23. Checking of transistors using a Multimeter .
24. Plot the input and output characteristics for a transistor in common emitter configuration and determine current gain, input and output resistance.