Department of Technical Education
Diploma Course in Computer Science & Engineering/IS&E
First Semester
Subject: Basic Electronics Lab

	GENERAL OBJECTIVES:	No. of Hrs
	On completion of the lab course, the student will be able to	**96**
1	Comprehend the art of Soldering	
2	Understand the behavioral characteristics of passive components	

GRADED EXERCISES:

SECTION -- A
STUDY EXERCISES

Note: In Study Exercises the student should become familiar with specification of equipments & components & should draw a neat diagram of the control panel of equipment & actual appearance in case of components.Symbols should also be indicated wherever applicable

1	Familiarization and precautionary measures to be taken while using the following Equipments -- Analog mulltimeter Digital Multimeter Regulated power supply LCR Meter Ammeters voltmeter and Galvanometer	6
2	Identification of components ----- Passive and Active components with Sy	6
3	Colour code--- Calculation of Resistance & capacitance value by colour code method	6
4	Measurement of Resistance & Capacitance value by colour codes	6
5	Soldering Practice Tool, Bending of Wires, Soldering of Passive and Active components	6
6	Testing of Passive Components	6
7	Familiarization, Study and Application of following Hardware materials and FUSES --- Rewirable, cartridge,High rupturing capacity Fuse, KEYS--- Rectangular Buttons,Spring loaded,Mechanical , Electronic feather touch PLUGS AND SOCKETS--- 2 pin, 3 pin, Multiple, round type CONNECTORS : IC and relay connector, PCB connector,BNC, threaded neutral modular TERMINALS ---Different sizes CABLES --- twistedpair,co-axial cable, optical cable CLIPS --- Crocodile , Banana Crimping tools	6
9	Study the block diagram of UPS & SMPS & state their merits and demrites	6
		48

Part B

Conduction Exercises:

11	Verification of Ohm's law,	3
12	Verification of Kirchoff's Current law for D.C Circuits	3
13	Verification of Kirchoff's Voltage law for D.C Circuits	3
14	Characteristics of junction diode (Forward & Reverse Bias)	6
15	Characteristics of Zener diode (Forward & Reverse bias)	6
16	Inverting amplifier using OP-AMP	3
17	Non-inverting amplifier using OP-AM	3
18	Half wave - construction, calculation of ripple factor with and without pie filter	6
19	Full wave bridge rectifier - construction, calculation of ripple factor with and without pie filter	9
		48
	Total	**96**

	SCHEME OF VALUATION	
1	Record	5
2	**Part A** - Study Excersise	25
3	**Part B -** Write up any One Experiment (Circuit Diagram, Tabular column, Formula)	20
3	Construction using soldering and Conduction of Experiment	20
4	Result	10
5	Viva-Voce	20
	Total	**100**