D.CM.E.: EXPERIMENT-WISE EQUIPMENT

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Exercise on structure of C program	Personal Computer, Turbo C	Available
2			Exercise on Keywords and identifiers	Personal Computer, Turbo C	Available
3			Exercise on constants and variables	Personal Computer, Turbo C	Available
4			Execution of simple C program	Personal Computer, Turbo C	Available
5			Exercise on operators and expressions	Personal Computer, Turbo C	Available
6			Exercise on special operators	Personal Computer, Turbo C	Available
7			Exercise on input and output of characters	Personal Computer, Turbo C	Available
8			Exercise on formatted input and output	Personal Computer, Turbo C	Available
9			Exercise on simple if statement	Personal Computer, Turbo C	Available
10			Exercise on if..else statement	Personal Computer, Turbo C	Available
11			Exercise on else..if ladder statement	Personal Computer, Turbo C	Available
12		**C PROGRAMMING LABORATORY**	Exercise on switch statement	Personal Computer, Turbo C	Available
13	**CM-108**		Exercise on conditional operator	Personal Computer, Turbo C	Available
14			Exercise on while statement	Personal Computer, Turbo C	Available
15			Exercise on for statement	Personal Computer, Turbo C	Available
16			Exercise on do..while statement	Personal Computer, Turbo C	Available
17			Exercise on one dimensional arrays	Personal Computer, Turbo C	Available
18			Exercise on two dimensional arrays	Personal Computer, Turbo C	Available
19			Exercise on strings	Personal Computer, Turbo C	Available
20			Exercise on user-defined function	Personal Computer, Turbo C	Available
21			Exercise on recursion	Personal Computer, Turbo C	Available
22			Exercise on structure	Personal Computer, Turbo C	Available
23			Exercise on array of structures	Personal Computer, Turbo C	Available
24			Exercise on pointers	Personal Computer, Turbo C	Available
25			Exercise on text files	Personal Computer, Turbo C	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Hands on practice on Vernier Calipers	Vernier calipers, cylinder, sphere	Available
2			Hands on practice on Screw gauge	Screw gauge, glass plate, wire.	Available
3			Verification of Parallelogram law of forces and Triangle law of forces	Drawing board fitted with two pulleys,, pins, twine thread, weight hangers, weight slots	Available
4			Simple pendulum	Pendulum Bobs of different diameters and material, thread, stop clock, meter scale, retort stand, rubber cork, vernier calipers.	Available
5			Velocity of sound in air – (Resonance method)	Resonating air column apparatus, Tuning Fork, Rubber Hammer	Available
6	CM-109A	PHYSICS LABORA TORY	Focal length and Focal power of convex lens (Separate & Combination)	Convex lenses, V-stand, Illuuminated object, screen, meter scale.	Available
7			Refractive index of solid using traveling microscope	Travelling microscope, glass slab, beaker, lycopodium powder	Available
8			Surface tension of liquid using traveling microscope	Capillary tube, Travelling microscope, Bent pin, Retart stand, Beaker.	Available
9			Coefficient of viscosity by capillar	Aspirator bottle, stop clock, uniform capillary tube, physical balance, weight box.	Available
10			Boyle's law verification	Quill tube, meter scale, retort stand.	Available
11			Meter bridge	Meter bridge, jockey, galvano meter, plug key, battery, standard unknown resistance, unkonwn resistance	Available
12			Mapping of magnet lines of force	Bar magnet, drawing board.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			a) Recognition of chemical substances and solutions used in the laboratory by senses. b) Familiarization of methods for Volumetric analysis	Various chemical substances & solutions, Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box, burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
2			Preparation of Standard Na2 CO3 and making solutions of different dilution solutions.	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box.	Available
3			Estimation of HCl solution using Standard Na2 CO3 solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
4			Estimation of NaOH using standard HCl solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
5			Estimation of H2SO4 using standard NaOH solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
6			Estimation of Mohr's Salt using standard KMnO4	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
7	CM-109B	CHEMISTRY LABORATORY	Determination of acidity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
8			Determination of alkalinity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
9			Determination of total hardness of water using standard EDTA solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
10			Estimation of Chlorides present in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
11			Estimation of Dissolved Oxygen (D.O) in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
12			Determination of PH using PH meter	Digital PH meter, combined electrode, volumetric flask, beaker, wash bottle	Available
13			Determination of conductivity of water and adjusting ionic strength required level.	Digital conductivity meter, conductivity cell, beaker and wash bottle	Available
14			Determination of turbidity of water	Nephelo turbidity meter, beakers, wash bottle	Available
15			Estimation of total solids present in water sample	China dish, balance, measuring jar, steam bath, oven, and desiccator.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**COMPUTER HARDWARE BASICS**		
1			a) To familiarize with a Computer System and its hardware connections. b) To start and Shutdown a Computer correctly c) To check the software details of the computer	Personal Computer, DOS	Available
2			To check the hardware present in your computer.	Personal Computer, PC Hardware expansion board	Available
II			**WINDOWS OPERATING SYSTEM**		
3			To explore Windows Desktop	Personal Computer, Windows XP or 7	Available
4			Working with Files and Folders	Personal Computer, Windows XP or 7	Available
5			Windows Accessories: Calculator – Notepad – WordPad – MS Paint	Personal Computer, Windows XP or 7	Available
III			**MS-WORD**		
6	CM-110	COMPUTER FUNDAMENTALS LABORATORY	To familiarize with Ribbon layout of MS Word Home - Insert - Page layout – References – Review - View	Personal Computer, Windows XP or 7, MS-Office Software	Available
7			To practice Word Processing Basics	Personal Computer, Windows XP or 7, MS-Office Software	Available
8			To practice Formatting techniques	Personal Computer, Windows XP or 7, MS-Office Software	Available
9			To insert a table of required number of rows and columns	Personal Computer, Windows XP or 7, MS-Office Software	Available
10			To insert Objects, Clipart and Hyperlinks	Personal Computer, Windows XP or 7, MS-Office Software	Available
11			To use Mail Merge feature of MS Word	Personal Computer, Windows XP or 7, MS-Office Software	Available
12			To use Equations and symbols features	Personal Computer, Windows XP or 7, MS-Office Software	Available
IV			**MS-EXCEL**		
13			To familiarize with MS-EXCEL layout	Personal Computer, Windows XP or 7, MS-Office Software	Available
14			To access and Enter data in the cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
15			To edit a spread sheet- Copy, Cut, Paste, and selecting Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
16			To use built in functions and Formatting Data	Personal Computer, Windows XP or 7, MS-Office Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
17			To create Excel Functions, Filling Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
18			To enter a Formula for automatic calculations	Personal Computer, Windows XP or 7, MS-Office Software	Available
19			To sort and filter data in table	Personal Computer, Windows XP or 7, MS-Office Software	Available
20			To practice Excel Graphs and Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
21			To develop lab reports of respective discipline	Personal Computer, Windows XP or 7, MS-Office Software	Available
22			To format a Worksheet in Excel, Page Setup and Print	Personal Computer, Windows XP or 7, MS-Office Software	Available
V			**MS-POWER POINT**		
23			To familiarize with Ribbon layout features of PowerPoint 2007.	Personal Computer, Windows XP or 7, MS-Office Software	Available
24			To create a simple PowerPoint Presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
25		**COMPUTER FUNDAMENTALS LABORATORY**	To set up a Master Slide in PowerPoint	Personal Computer, Windows XP or 7, MS-Office Software	Available
26	**CM-110**		To insert Text and Objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
27			To insert a Flow Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
28			To insert a Table	Personal Computer, Windows XP or 7, MS-Office Software	Available
29			To insert a Charts/Graphs	Personal Computer, Windows XP or 7, MS-Office Software	Available
30			To insert video and audio	Personal Computer, Windows XP or 7, MS-Office Software	Available
31			To practice Animating text and objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
32			To Review presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
VI			**ADOBE PHOTOSHOP**		
33			To familiarize with standard toolbox	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
34			To edit a photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
35			To insert Borders around photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
36	CM-110	COMPUTER FUNDAMENTALS LABORATORY	To change Background of a Photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
37			To change colors of Photograph.	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
38			To prepare a cover page for the book in your subject area	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
39			To adjust the brightness and contrast of the picture so that it gives an elegant look	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
40			To type a word and apply the shadow emboss effects	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Develop a 'C' program to create and implement a SINGLY LINKED LIST. Write functions to insert, delete, and display elements of the list.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
2			Develop a 'C' program to create and implement a SINGLY CIRCULAR LINKED LIST.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
3			Develop a 'C' program to create and implement a STACK using arrays.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
4			Develop a 'C' program to create and implement a STACK using linked lists.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
5			Develop a 'C' program to create and implement a QUEUE using arrays.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
6			Develop a 'C' program to create and implement a QUEUE using linked lists.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
7			Develop a 'C' program to create and implement a CIRCULAR QUEUE using arrays.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
8	CM-306	DATA STRUCTURES THROUGH C LAB	Develop a 'C' program to create a BINARY TREE. Write functions to perform the various traversals on the tree.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
9			Develop a 'C' program to create a BINARY SEARCH TREE. Write functions to perform the various traversals on the tree.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
10			Develop a 'C' program to create and implement SELECTION SORTING.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
11			Develop a 'C' program to create and implement INSERTION SORTING.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
12			Develop a 'C' program to create and implement BUBBLE SORTING.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
13			Develop a 'C' program to create and implement MERGE SORTING on two sorted list.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
14			Develop a 'C' program to create and implement LINEAR SEARCHING.	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available
15			Develop a 'C' program to create and implement BINARY SEARCHING	Personal Computer, Windows XP or 7, Turbo C2 or Turbo7	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Know installation of Oracle	Personal Computer, Windows, Oracle	Available
2			Exercise on creating tables	Personal Computer, Windows, Oracle	Available
3			Exercise on inserting records	Personal Computer, Windows, Oracle	Available
4			Exercise on updating records	Personal Computer, Windows, Oracle	Available
5			Exercise on modifying the structure of the table	Personal Computer, Windows, Oracle	Available
6			Exercise on Select command	Personal Computer, Windows, Oracle	Available
7			Exercise on querying the table using clauses like WHERE, ORDER, IN, AND, OR, NOT	Personal Computer, Windows, Oracle	Available
8			Exercise on various group functions	Personal Computer, Windows, Oracle	Available
9			Exercise on Number functions, character functions, conversion functions and date functions	Personal Computer, Windows, Oracle	Available
10			Exercise on set operators	Personal Computer, Windows, Oracle	Available
11			Exercise on sub queries	Personal Computer, Windows, Oracle	Available
12	CM-307	DBMS LAB	Exercise on Joins	Personal Computer, Windows, Oracle	Available
13			Exercise on various date and number format models	Personal Computer, Windows, Oracle	Available
14			Exercise on creating tables with integrity constraints	Personal Computer, Windows, Oracle	Available
15			Write programs using PL/SQL control statements	Personal Computer, Windows, Oracle	Available
16			Exercise on PL/SQL exception handling	Personal Computer, Windows, Oracle	Available
17			Exercise on Procedures	Personal Computer, Windows, Oracle	Available
18			Exercise on Functions	Personal Computer, Windows, Oracle	Available
19			Exercise on Recursion	Personal Computer, Windows, Oracle	Available
20			Exercise on Installation of MongoDB	Personal Computer, Windows, MongoDB	Available
21			Exercise on Creation and Dropping of Database	Personal Computer, Windows, MongoDB	Available
22			Exercise on Creation and Dropping of Collections.	Personal Computer, Windows, MongoDB	Available
23			Exercise on Commands of MongoDB-Insert, update, find, delete and sorting of Documents	Personal Computer, Windows, MongoDB	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1	CM-308	COMMUNICATION SKILLS LAB	Listening I	Projector	Available
2			Listening II	Projector	Available
3			Introducing oneself	Projector and Pulblic Address system	Available
4			Describing objects	Projector and Pulblic Address system	Available
5			Describing events	Pulblic Address system	Available
6			Reporting past incidents	Pulblic Address system	Available
7			Speaking from observation / reading	Projector and Pulblic Address system	Available
8			JAM	Pulblic Address system	Available
9			Group discussion	Projector	Available
10			Mock interviews	Projector	Available
11			Making presentations	Projector and Desktop computer	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Identificationof Digital Ics and noting down pin details from data sheets. Identify the given digitalICs and draw the pin diagrams. (Use TTL and CMOS Ics of AND, OR, NOT, NAND, NOR and XORgates withtwo and three inputs)	Data sheets of Different Digital Ics	Available
2			Verify the truth tables of AND, OR, NOT, NAND, NOR and EX-OR gates	Digital Logic Trainer board -1	Available
3			Realize AND, OR, NOT, XOR functions using NAND gates only, NOR gates only	Logic Trainer board -1	Available
4			Verify Demorgan's Laws using given digital trainer kit and given TTL gates	Logic Trainer board -1	Available
5			Construct Half Adder and Full Adder circutis and verify their functinality	Logic Trainer board -1	Available
6	CM-309	DIGITAL ELECTRO NICS LAB	To construct Clocked FFs using Logic gates/Digital trainer kits and verify its truth table a) Verify the truth table of CD4013 Dual D Flip-Flop b) Verify the functionality and truth table of 74L71 RS Flip-Flop with preset and Clear c) Verify the truth table of JK FF using 7476 IC d) Construct D and T FFs using 7476 and verify the truth tables d) Use Digital trainer kits where ever required for above experiments	Flip-Flops board	Available
7			To construct and verify the function of Asynchronous counters	Logic trainer board	Available
8			To construct and verify the function of Decade counter using 7490 Ics a) Change the modulus of the counter b) Display decimal number using 7447	Decade counter board -1	Available
9			To construct and verify the function of Synchronous counters	4-bit synchronous counter board -1	Available
10			To construct and verify the function of Up/Down counter	UP/DOWN counter board -1, CRO -1	Available
11			To construct and verify the function of Shift register	Shift register board -1	Available
12			To study the features of Encoders and Decoders	Encoder & Decoder Board	Available
13			To study the features of Multiplexers and Demultiplexers	Multiplexer & Demultiplexer Board	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
14	CM-309	DIGITAL ELECTRO NICS LAB	Setup a circuit of a single decimal 4-bit BCD and vice-versa using gates	Logic gates Ics	Available
15			Setup a circuit for displaying hexadecimal code on a 7 segment display	Kit for displaying hexadecimal code on 7-segment display.	Available
16			To verify truth table and to study the operation of Tri-state output Buffer	330W -1, LED -1, U3A74125N -1, Switches -1, +5V -1	Available
17			To verify the functionof 4-bit magnitude Comparator using logic gate	4-bit Magnitude comparator board -1	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Create a HTML page that uses the tags like head, title, body etc.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
2			Create a HTML page that uses frames and different presentation formats, colors.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
3			Create a HTML page with a table consisting of a header, body and footer.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
4			Create a HTML page with a form containing various controls.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
5			Create a style sheet to set the background color, position and dimensions of a HTML element.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
6			Create a simple XML file that contains student data.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
7	CM-406	**WEB DESIGNI NG LAB**	Write JavaScript code using arithmetic operators.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
8			Write JavaScript code to implement sorting.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
9			Write JavaScript code that uses recursion.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
10			Write JavaScript code that displays date in various formats.	Personal Computer, Windows XP or 7, Web Browser, Notepad ++	Available
11			Write PHP program using arithmetic operators.	Personal Computer, Windows XP or 7, XAMPP Software (Local Server)	Available
12			Write PHP program to implement searching.	Personal Computer, Windows XP or 7, XAMPP Software (Local Server)	Available
13			Write PHP program to perform various operations on a database table using functions.	Personal Computer, Windows XP or 7, XAMPP Software (Local Server)	Available
14			Write a PHP program to set a cookie.	Personal Computer, Windows XP or 7, XAMPP Software (Local Server)	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1	CM-407	JAVA PROGRAMMING LAB	Write programs using Java built-in functions using all data types.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
2			Write programs using conditional statements and loop statements.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
3			Write a program to read data from keyboard.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
4			Write a program to create class and objects.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
5			Write programs using constructors.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
6			Write a program to illustrate usage of command line arguments.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
7			Write programs using concept of overloading methods.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
8			Exercise on inheritance.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
9			Write a program using the concept of method overriding.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
10			Exercise on importing packages.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
11			Exercise on interfaces.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
12			Exercise on exception handling.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
13			Exercise on multithreading and thread priorities.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available
14			Exercise on database connectivity using JDBC.	Personal Computer, Windows XP or 7, JAVA Develop Kit (Version 8)	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Identify motherboard components	Personal Computer, Hard Expansion board	Available
2			RAM identification, removal, installation	Personal Computer, Hard Expansion board	Available
3			CMOS setup	Personal Computer	Available
4			Print a summary of your system Hardware.	Personal Computer, Printer	Available
5			Upgrading memory	Personal Computer	Available
6			Hard drive, optical drive installation.	Personal Computer, DVD Writer, DVD/CD	Available
7			How to recover lost data on hard drive	Personal Computer	Available
8	CM-408	COMPUTER HARDWARE AND NETWORKING LAB	Trouble shooting keyboard ,monitor, printer a) few keys do not work. b) keyboard does not work at all. c) key continuous to repeat after being released d) key produces wrong character. e) Power light (led) does not go on, no picture. f) Power LED light is on no picture power up . g) Power on but monitor display wrong character. h) Monitor flickers has wary lines. i) Screen goes blank 30 seconds or minute after the keyboard is left untouched	Personal Computer, Keyboard, monitor, printer	Available
9			Printer Problems 9.1 Laser printer: a) Printer never leaves warm-up mode. b) Paper Jam message is displayed c) Printed messages are distorted 9.2 DMP a) Print head moves back and forth but nothing prints. b) Print self test works but printing from a computer application does not work etc.,	Personal Computer, Laser printer, Dot Matrix Printer	Available
10			Installation of operating system	Personal Computer, DVD writer, Windows OS CD/DVD	Available
11			Installation of Network card.	Personal Computer, DVD writer, NIC card and its driver software	Available
12			Preparing the UTP cable for cross and direct connections using crimping tool.	Personal Computer, RJ45 jacks, crimping tool and cable.	Available
13			Installation of a switch and connecting systems to a network switch	Personal Computer, RJ45 jacks, 12 port switch, CAT5E cable, crimping tool	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
14		**COMPUTER HARDWARE AND NETWORKING LAB**	Installation of a modem (internal, external or USB) and connecting to internet.	Personal Computer, MODEM or Dongle, data cables	Available
15	**CM-408**		Using FTP for uploading and downloading files.	Personal Computer, LAN Connecteds PCs, Internet	Available
16			Installation and configuring the proxy server for internet access.	Personal Computer, Internet, free proxy software (3rd party software)	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1	CM-409	MICROPROCESSORS LAB	Write an ALP to perform Arithmetic operations on two 16 bit numbers	Microprocessor kit 8086, ASCII keyboard	Available
2			Write an ALP to add two BCD numbers	Microprocessor kit 8086, ASCII keyboard	Available
3			Write an ALP to implement searching on an array	Microprocessor kit 8086, ASCII keyboard	Available
4			Write an ALP to sort the numbers in an array	Microprocessor kit 8086, ASCII keyboard	Available
5			Write an ALP to find the factorial of a number	Microprocessor kit 8086, ASCII keyboard	Available
6			Write an ALP to manipulate strings	Microprocessor kit 8086, ASCII keyboard	Available
7			Write an ALP to implement pattern matching	Microprocessor kit 8086, ASCII keyboard	Available
8			Write an ALP to move data from on location to another location	Microprocessor kit 8086, ASCII keyboard	Available
9			Write an ALP for generating multiplication table for a given number	Microprocessor kit 8086, ASCII keyboard	Available
10			Write an ALP to count number of one and zeros in a number	Microprocessor kit 8086, ASCII keyboard	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Installing Linux/Windows-2008 server.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
2			Practice on Linux commands.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
3			Creating and managing user accounts in LINUX/Windows-2008 server.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
4			Write and execute at shell programs in Linux using numbers.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
5			Write and execute at shell programs in Linux using strings.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
6			Write and execute at shell programs in Linux using arrays.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
7		**SYSTEM ADMINIS TRATION AND SOFTWAR E TESTING LAB**	Lower case to upper case, string length, concatenating strings.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
8	**CM-506**		Installation of device drivers in LINUX/Windows-2008 server.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
9			Configuration of DHCP in LINUX/Windows-2008 server.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
10			Configuration of DNS in LINUX/Windows-2008 server.	Personal Computer, Windows Server 2008 R2, KALILINUX OS	Available
II			**SOFTWARE TESTING LAB**		
11			Take any System and study its system specifications and generate a bugs report in it.(Ex: ATM)	Personal Computer, Windows 7, BUGZILLA Software	Available
12			Write the Test cases for any known application (Ex. Banking)	Personal Computer, Windows 7, BUGZILLA Software	Available
13			Study about the Web Testing Tool (Ex. Selenium) and know its IDE.	Personal Computer, Windows 7, BUGZILLA Software	Available
14			Study about the Bug Tracking Tool (Ex. Bugzilla).	Personal Computer, Windows 7, BUGZILLA Software	Available
15			Write any Program by implementing IEEE Coding standards.	Personal Computer, Windows 7, BUGZILLA Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Exercise on all basic controls in designing forms.	Personal Computer, Visual Studio 2010	Available
2			Design a calculator using appropriate commands	Personal Computer, Visual Studio 2010	Available
3			Exercise on menus at design time and run time.	Personal Computer, Visual Studio 2010	Available
4			Exercise on modifying and deleting menu items.	Personal Computer, Visual Studio 2010	Available
5			Develop a project using arrays and control statements.	Personal Computer, Visual Studio 2010	Available
6			Develop a project using recursive concept.	Personal Computer, Visual Studio 2010	Available
7			Exercise on Line and Shape Controls.	Personal Computer, Visual Studio 2010	Available
8	CM-507	.NET PROGRAMMING WITH C# LAB	Exercise on console application which accept two argument from the user and returns four output values as sum, difference, product and quotient of those two arguments.	Personal Computer, Visual Studio 2010	Available
9			Develop a calculator windows application.	Personal Computer, Visual Studio 2010	Available
10			Exercise on web forms using appropriate control elements.	Personal Computer, Visual Studio 2010	Available
11			Design a student details web form.	Personal Computer, Visual Studio 2010	Available
12			Exercise on web forms using images , hyperlinks.	Personal Computer, Visual Studio 2010	Available
13			Exercise on data accessing in ADO.NET with multiple tables.	Personal Computer, Visual Studio 2010	Available
14			Develop a student web application, connect to database. a) Retrieve student details and display in web form. b) Retrieve student marks,calculate percentage display the result in tabular form.	Personal Computer, Visual Studio 2010	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			**UNIT I: All about Making Presentations**		
			* The importance of presentations * Features of a good presentation * Opening a presentation * Building up the Body of the presentation * Use of linkers/ cohesive devices * Acceptable and good body language	Projector	Available
2			**Unit 2: Getting Started with Presentations**		
			Describing an Apparatus, templates and group presentations	Projector	Available
3			**Unit 3: Presentational Aids**	Desktop, flash cards, charts	Available
4			**Unit 4: Technical Presentation**		
			Use of Simple past tense in presenting experiments	Public Address System	Available
5			**Unit 5: Table/ grid showing the title of the topic from**		
			Presentation from Technical Subject	Desktop and Public Address System	Available
6			**Unit 6: Table/ grid showing the title of the topic from**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
7	CM-508	PRESENTATION SKILLS	**Unit 7: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
8			**Unit 8: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
9			**Unit 9: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
10			**Unit 10: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
11			**Unit 11: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
12			**Unit 12: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
13			**Unit 13: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
14			**Unit 14: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
15			**Unit 15: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1	CM-509	MOBILE APPLICATION DEVELOPMENT LAB	Exercise on Android Environment Setup using Android Studio IDE	Personal Computers, Internet, Android Studio	Available
2			Exercise on Android Environment Setup using Eclipse IDE	Personal Computers, Internet, Android Studio	Available
3			Create a new Android project to display "Hello World"	Personal Computers, Internet, Android Studio	Available
4			Create an Android app to show a Toast message	Personal Computers, Internet, Android Studio	Available
5			Create an Android app to illustrate the use of Button control	Personal Computers, Internet, Android Studio	Available
6			Create an Android app to accept two numbers in two Edit Text (text fields) and display the sum of them in a Toast message on clicking a button	Personal Computers, Internet, Android Studio	Available
7			Create an Android app to accept a nimber in Edit Text and display the factorial of it in a Toast message on clicking a button	Personal Computers, Internet, Android Studio	Available
8			Create an Android app to illustrate the use of Check Box widget	Personal Computers, Internet, Android Studio	Available
9			Create an Android app to illustrate the use of Spinner (Combo Box) widget	Personal Computers, Internet, Android Studio	Available
10			Create an Android app to illustrate the use of Datepicker widget	Personal Computers, Internet, Android Studio	Available
11			Create an Android app to illustrate the use of Timepicker widget	Personal Computers, Internet, Android Studio	Available
12			Create an Android app that uses multiple UI controlslike Edit Text, Check Box, Spinner and Buttons	Personal Computers, Internet, Android Studio	Available
13			Create an Android app to shift from one activity to another activity using a button	Personal Computers, Internet, Android Studio	Available

D.EC.E.: EXPERIMENT-WISE EQUIPMENT

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Identifying different components R,L,C, Diodes, Transistors, JFETs, MOSFETs, Relays, Switches,etc.	Different types of Resistors, Inductors, Capacitors, Diodes, Transistors, JFETs, MOSFETs, Relays, Switches etc.	Available
2			Technique of using soldering iron, soldering different components and ICs.	Soldering iron, stand, different components, ICs, general purpose PCB, lead, flux, blade.	Available
3			Soldering components on to general PCB as per the given circuit diagram.	General purpose PCB, components as per the circuit diagram, Soldering iron, stand, lead, flux, foreceps.	Available
4			Technique of de-soldering using de-soldering pump and wick.	Desoldering pump, soldering iron, soldering wick, foreceps, PCB to be desoldered.	Available
5			Draw PCB for simple circuits and etch them on to a copper clad.	Copper clad board, ferric chloride solution, marker pen, bowl, scale, pencil.	Available
6	EC-108	Electrical Wiring and Electronic components Lab	Preparing PCB for soldering and soldering components on the PCB.	For Half-Wave rectifier: (0-9V) transformer, Copper clad board, ferric chloride solution, marker pen, IN4007 diode, 10 KΩ resistor, lead, soldering iron, stand, flux, blade etc.	Available
7			Study of RPS units, CROs, Function Generators, other meters using their manuals and write down the steps in using each equipment.	RPS, C.R.O., function generator, D.M.M., Analog multimeter, other meters and their manuals.	Available
8			Measure R,L and C using multimeter & LCR meter, and compare with the calculated value using the code.	Different Resistors, Inductors, Capacitors, Multimeter, LCR meter.	Available
9			Identify different terminals of diode, zener diode, BJT, FET using multimeter.	Silicon diode, zener diode, BJT, FET, bread board, multimeter.	Available
10			Obtain VI characteristics of diode, zener diode.	RPS, IN400 Diode, 12V Zener diode, 100Ω/1W -1, Bread board,Ammeters (0-500μA), (0-10mA), Voltmeter(0-10V) 220Ω resistor1, D.R.B -1,	Available
11			Obtain output and input characteristics of CB and CE transistor.	Transistor Trainer Board, Dual channelRPS, Voltmeters, Ammeters	Available
12			Control a load using relay i) Turn On and Off DC load (LED/Buzzer/DC motor) ii) Turn On and Off AC load (Bulb/Tube light/Fan)	2N7000 (N-MOSFET), 470 KW, LDR -1, Relay (12V), bulb (110V/220V), 12V battery,bread board,	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
13			Arrange PA system with multi speakers and microphones (with cord and cordless)	4Ω speakers -2, 8Ω spekers -2, Microphones with cord and cordless,Amplifier.	Available
14			Obtain drain & transfer characteristics of FET	Dual channel RPS,Transistor trainor board	Available
15			Measure the primary and secondary voltages of step down transformer	Step down transformer, Multimeter	Available
16			Wind manually single air core inductor using available wire and measure inductance using LCR meter	Wire, LCR meter	Available
			LCR meter		
1			Working with Tools used in Electrical Wiring Identifying 1.Wire stripper. 2. Insulation remover 3. Pocket knife 4.Electrical Tester 5. Phillips Head Screwdrivers 6.Mallet 7. Rawl plug jumper 7. Standard wire Gauge	Screw drivers, Wire stripper, Insulation remover, Pocket knife, Electrical Tester, Mallet, Rawl plug jumper, Standard wire Gauge	Available
2			**Identifying and working with Pliers**		
a)	EC-108	**Electrical Wiring and Electronic compone nts Lab**	Identify and know the various functions of cutting pliers, Nose pliers, Pipe pliers, Flush cutter, top cutting pliers, Electronics pliers,Insulated cutting pliers	Different types of Pliers	Available
b)			Perform the following operations 1. Holding 2. Wire cutting 3. Component bending 4. Twisting the wire	Copper wire, Cutter, Stripper, Pliers	Available
3			**Identification of different wires and cables**		
			i) Hookup wires a) PVC wire b) Teflon wires c) Single strand ii)) Multistrand wires used for electrical wiring. a) Service wire b) TRS wires/PVC wires (Al and Cu) c) single strand d) Multistrand e) twisted flexible pair wires f)Enameled copper wire Power cord, UTP cable, Coaxial cables, Flat ribbon cable for antennas, Telephone cable, Ethernet cable, Ribbon cables, Optical fiber.	1) VIR, CTSHRS, PVC, Lead Sheated, Flexible Cables. 2) Single core, double, thriple core, fore core cables 3) Copper conductor cable, Auminium conductor 4) LT, HT and Super tension cables 5) 1/18 cu, 3/20, 7/20 copper wires.	Available
4			**Practice of wire joints**		
			Perform the following wire joints operations: a) Twisting b) Splicing c) Insulation d) Western union joint e) Married joint f) Britania (straight joint) g) Tee joint h) Joining running cables, Pigtail or rat tail joint . Removing the insulation, Taping the joint, Make the joint professionally and tape.	Insulating remover, metal tape, cutting plier, copper wire, sand paper, nipper.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
5			**Identifying the Electrical accessories** SPST switch, SPDT switch, Two pin and 3 pin Sockets and plugs, Power socket and Power plugs Lamp holders, Ceiling rose, Mains Switch, MCB, Kitkat Fuse-Fuse wire ratings	Switches, ceiling roses, lamp holders, sockets, DP mains, ICDP, ICTP, RCCB, RCD, RCBO, FLCB, PMLB, fuses.	Available
6			Know the mains supply Phase, Neutral, Ground. Identification Phase and Neutral terminals in mains supply, Know the purpose of earthin 2pin and 3pin Plug connections.	Sockets, Cu wire, PVC pipe, knife, plier, switches, screw driver, tester, hansd drill, ceiling rose, lamp clamps, screws.	Available
7			**Make simple switch connections using low voltage**		
a)			Connecting a 6v lamp to a switch (toggle)	Cu wire, plier, knife, sand paper, screw driver, PVC pipe, tester, clamps, screws, lamp, toggle switch, holder.	Available
b)	EC-108	**Electrical Wiring and Electronic components Lab**	2 way switch connections	Plier, knife, sand paper, screw driver, hand drill, hammer, hacksaw, tester, 2-way switches (250V/5A), batten holders (250V/5A), PVC round block, filament lamp, clamps, screws, PVC pipe.	Available
c)			Series and parallel connection of lamps. Know the use of two way switch for stair case wiring	Plier, knife, sand paper, screw driver, hand drill, hammer, hacksaw, tester, 2-way switches (250V/5A), batten holders (250V/5A), PVC round block, filament lamp, clamps, screws, PVC pipe.	Available
8			Tube light connections (To be done in the presence of Instructior). Make the tube light connections as per the circuit and Test	Plier, knife, sand paper, screw driver, hand drill, hammer, tester, socket, 1-way switch, lamp hlder, copper wire, PVC pipe, ceiling rose.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Hands on practice on Vernier Calipers	Vernier calipers, cylinder, sphere	Available
2			Hands on practice on Screw gauge	Screw gauge, glass plate, wire.	Available
3			Verification of Parallelogram law of forces and Triangle law of forces	Drawing board fitted with two pulleys,, pins, twine thread, weight hangers, weight slots	Available
4			Simple pendulum	Pendulum Bobs of different diameters and material, thread, stop clock, meter scale, retort stand, rubber cork, vernier calipers.	Available
5			Velocity of sound in air – (Resonance method)	Resonating air column apparatus, Tuning Fork, Rubber Hammer	Available
6	EC-109A	PHYSICS LAB	Focal length and Focal power of convex lens (Separate & Combination)	Convex lenses, V-stand, Illuuminated object, screen, meter scale.	Available
7			Refractive index of solid using traveling microscope	Travelling microscope, glass slab, beaker, lycopodium powder	Available
8			Surface tension of liquid using traveling microscope	Capillary tube, Travelling microscope, Bent pin, Retart stand, Beaker.	Available
9			Coefficient of viscosity by capillar	Aspirator bottle, stop clock, uniform capillary tube, physical balance, weight box.	Available
10			Boyle's law verification	Quill tube, meter scale, retort stand.	Available
11			Meter bridge	Meter bridge, jockey, galvano meter, plug key, battery, standard unknown resistance, unkonwn resistance	Available
12			Mapping of magnet lines of force	Bar magnet, drawing board.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Familiarization of methods for Volumetric analysis	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box, burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
2			Preparation of Standard Na2 CO3 and making solutions of different dilution solutions.	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box.	Available
3			Estimation of HCl solution using Standard Na2 CO3 solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
4			Estimation of NaOH using standard HCl solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
5			Estimation of H2SO4 using standard NaOH solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
6			Estimation of Mohr's Salt using standard KMnO4	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
7	EC-109B	CHEMIS TRY LAB	Determination of acidity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
8			Determination of alkalinity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
9			Determination of total hardness of water using standard EDTA solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
10			Estimation of Chlorides present in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
11			Estimation of Dissolved Oxygen (D.O) in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
12			Determination of PH using PH meter	Digital PH meter, combined electrode, volumetric flask, beaker, wash bottle	Available
13			Determination of conductivity of water and adjusting ionic strength required level.	Digital conductivity meter, conductivity cell, beaker and wash bottle	Available
14			Determination of turbidity of water	Nephelo turbidity meter, beakers, wash bottle	Available
15			Estimation of total solids present in water sample	China dish, balance, measuring jar, steam bath, oven, and desiccator.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**COMPUTER HARDWARE BASICS**		
1			a) To familiarize with a Computer System and its hardware connections. b) To start and Shutdown a Computer correctly c) To check the software details of the computer	Personal Computer, DOS	Available
2			To check the hardware present in your computer.	Personal Computer, PC Hardware expansion board	Available
II			**WINDOWS OPERATING SYSTEM**		
3			To explore Windows Desktop	Personal Computer, Windows XP or 7	Available
4			Working with Files and Folders	Personal Computer, Windows XP or 7	Available
5			Windows Accessories: Calculator – Notepad – WordPad – MS Paint	Personal Computer, Windows XP or 7	Available
III			**MS-WORD**		
6			To familiarize with Ribbon layout of MS Word Home - Insert - Page layout – References – Review - View	Personal Computer, Windows XP or 7, MS-Office Software	Available
7	EC-110	**COMPUTER FUNDAMENTALS LABORATORY**	To practice Word Processing Basics	Personal Computer, Windows XP or 7, MS-Office Software	Available
8			To practice Formatting techniques	Personal Computer, Windows XP or 7, MS-Office Software	Available
9			To insert a table of required number of rows and columns	Personal Computer, Windows XP or 7, MS-Office Software	Available
10			To insert Objects, Clipart and Hyperlinks	Personal Computer, Windows XP or 7, MS-Office Software	Available
11			To use Mail Merge feature of MS Word	Personal Computer, Windows XP or 7, MS-Office Software	Available
12			To use Equations and symbols features	Personal Computer, Windows XP or 7, MS-Office Software	Available
IV			**MS-EXCEL**		
13			To familiarize with MS-EXCEL layout	Personal Computer, Windows XP or 7, MS-Office Software	Available
14			To access and Enter data in the cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
15			To edit a spread sheet- Copy, Cut, Paste, and selecting Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
16			To use built in functions and Formatting Data	Personal Computer, Windows XP or 7, MS-Office Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
17			To create Excel Functions, Filling Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
18			To enter a Formula for automatic calculations	Personal Computer, Windows XP or 7, MS-Office Software	Available
19			To sort and filter data in table	Personal Computer, Windows XP or 7, MS-Office Software	Available
20			To practice Excel Graphs and Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
21			To develop lab reports of respective discipline	Personal Computer, Windows XP or 7, MS-Office Software	Available
22			To format a Worksheet in Excel, Page Setup and Print	Personal Computer, Windows XP or 7, MS-Office Software	Available
V			**MS-POWER POINT**		
23			To familiarize with Ribbon layout features of PowerPoint 2007.	Personal Computer, Windows XP or 7, MS-Office Software	Available
24			To create a simple PowerPoint Presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
25		**COMPUTER FUNDAMENTALS LABORATORY**	To set up a Master Slide in PowerPoint	Personal Computer, Windows XP or 7, MS-Office Software	Available
26	**EC-110**		To insert Text and Objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
27			To insert a Flow Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
28			To insert a Table	Personal Computer, Windows XP or 7, MS-Office Software	Available
29			To insert a Charts/Graphs	Personal Computer, Windows XP or 7, MS-Office Software	Available
30			To insert video and audio	Personal Computer, Windows XP or 7, MS-Office Software	Available
31			To practice Animating text and objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
32			To Review presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
VI			**ADOBE PHOTOSHOP**		
33			To familiarize with standard toolbox	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
34			To edit a photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
35			To insert Borders around photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
36	EC-110	**COMPUTER FUNDAMENTALS LABORATORY**	To change Background of a Photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
37			To change colors of Photograph.	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
38			To prepare a cover page for the book in your subject area	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
39			To adjust the brightness and contrast of the picture so that it gives an elegant look	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
40			To type a word and apply the shadow emboss effects	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			Obtain output waveforms and measure DC o/p voltage, ripple voltage of a Half-wave rectifier with/without filter at different loads and compare with that of theoretical values.	Rectifier trainers, DRB -1, Ammeter (0-100mA) -1, Voltmeter (0-30V), AC millivoltmeter -1, 100uf/16V -1	Available
2			Obtain output waveforms and measure DC o/p voltage, ripple voltage of a Full-wave rectifier with/without filter at different loads and compare with that of theoretical values.	Rectifier trainer -1, DRB -1, Ammeter (0-100mA) -1, Voltmeter (0-30V), AC millivoltmeter -1, 100mf/16V -1	Available
3			Obtain output waveforms and measure DC o/p voltage, ripple voltage of a Bridge-wave rectifier with/without filter at different loads and compare with that of theoretical values.	Rectifier trainer -1, DRB -1, Ammeter (0-100mA) -1, Voltmeter (0-30V), AC millivoltmeter -1, 100mf/16V -1	Available
4			Obtain the voltage regulation characteristics of Zener regulator.	RPS -1, bread board -1, DRB -1, 220Ω -1, 1Z 12V diode -1	Available
II			**AMPLIFIERS AND OSCILLATORS**		
5			Plot the frequency response characteristics of a single stage Transformer coupled CE Amplifier.	Transformer coupled Amplifier board -1, FG -1, CRO -1	Available
6	EC-306	**ELECTRONIC CIRCUITS LAB**	Plot the frequency response characteristics of a RC coupled Amplifier	Transistor Trainor Board, Function Generator, CRO	Available
7			Implement Colpitt's oscillator and verify the effect of varying the tank circuit component values and observe output waveforms on CRO.	Colpitt's oscillator board -1, CRO -1, RPS -1	Available
8			Implement Hartley oscillator and verify the effect of varying the tank circuit component values and observe output waveforms on CRO.	Hartley oscillator board -1, CRO -1, RPS -1	Available
9			Implement Crystal oscillator and observe output waveforms on CRO.	Crysal oscillator board -1, CRO -1, RPS -1	Available
10			Implement RC Phase shift oscillator and verify the effect of varying the RC componet values and observe output waveforms on CRO.	RC phase shift oscillator board -1, CRO -1, RPS -1	Available
III			**WAVESHAPING CIRCUITS**		
11			Implement transistor Bi-stable/ Astable/ Mono-stable multivibrator circuit and observe the waveforms on CRO	Multivibrator board -1 (Trans version), FG -2, CRO -1	Available
12			Implement RC integrator ,apply a square wave and observe the output waveforms on CRO.	RC Filter circuits Board, CRO	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
13			Implement RC differentiator, apply a square wave and observe the output waveforms on CRO.	RC Filter circuits Board, CRO	Available
14			Assemble Positive and negative clipper circuits and obtain output waveforms with sinusoidal input.	Clipper/Clamper Board, CRO	Available
15			Realize a Clamper circuit and observe the input and output wave forms on CRO.	Clipper/Clamper Board, CRO	Available
IV			**SPECIAL DEVICES**		
16			Plot the characteristics of Photodiode.	Photo diode board -1, Voltmeter (0-1V), Ammeter (0-100μA) -1	Available
17			Plot the characteristics of Photo transistor.	Photo Transistor board -1, Voltmeter (0-30V), Ammeter (0-25mA) -1	Available
18			Plot the VI characteristics of different color LEDs & determine cut-in voltage	RPS -1, bread board -1, different LEDs, Voltmeter (0-10V)	Available
19	EC-306	**ELECTRONIC CIRCUITS LAB**	Plot the characteristics of LDR	Bread board, LDR, Voltmeter, Ammeter, RPS	Available
20			Implement a Twilight switch using a Phototransistor and a Relay; Replace Phototransistor with LDR and test.	Bread board -1, Twilight switch -1, Photo Transistor -1, Relay -1, LDR -1	Available
V			**PSPICE MODELLING USING eCAD SOFTWARE**		
21			Simulate half wave and full wave rectifier circuits	PC -1, PSPICE software	Available
22			Simulate 12v Zener regulator circuit and assess the performance for various loads	PC -1, PSPICE software	Available
23			Simulate of CE amplifier and observe the effect of disconnecting bypass capacitor.	PC -1, PSPICE software	Available
24			Simulate Hartley oscillator circuit and observe the effect of change in component values.	PC -1, PSPICE software	Available
25			Simulate transistor Astable-multivibrator /Bistable/Mono-stable circuit and observe the effect of change in component values.	PC -1, PSPICE software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			LOGIC GATES		
1			Verify the truth tables of AND, OR, NOT, NAND, NOR Gates.	Logic Trainer board -1	Available
2			Realize AND, OR, NOT, functions using 2 input NAND NOR Gates.	Logic Trainer board -1	Available
II			**COMBINATIONAL LOGIC CIRCUITS**		
3			Implement EX-OR Logic using basic gates and verify the truth table.	Logic Trainer board -1	Available
4			Implement EX-OR Logic using 2 input NAND Gates and NOR Gates and verify the truth table.	Logic Trainer board -1	Available
5			Implement a 4 bit complement generator (controlled inverters) using 7486 quad EX-OR IC.	Logic Trainer board -1	Available
6			Implement Half adder and full adder circuits using TTL/CMOS gates, and verify the truth tables.	Logic Trainer board -1	Available
7			Verify the function of 4- bit magnitude comparator 7485 IC.	Experimental board of 4-bit magnitude comparator	Available
III			**MULTIPLEXERS/DE-MULTIPLEXERS AND**		
8			Verify the truth table of Multiplexer IC 74153.	Multiplexer and De-Multiplexer board	Available
9			Verify the truth table of BCD to 7 segment Decoder 7448 IC	BCD to 7-Segment decoder board -1	Available
10	EC-307	**DIGITAL ELECTRO NICS LAB**	Verify The Truth table of 74138 Decoder IC	Binary to Decimal decoder -1	Available
11			Verify the function of 74148 Encoder and write the truth table .	Decimal to Binary encoder -1	Available
IV			**FLIP-FLOPS**		
12			Construct clocked RS FF using NAND gates and verify its truth table.	Flip-Flops board	Available
13			Verify the truth table of JK FF using 7476 IC.	Flip-Flops board	Available
14			Construct D and T flip flops using 7476 and verify the truth tables.	Flip-Flops board	Available
V			**COUNTERS, REGISTERS AND MEMORIES**		
15			Construct a ripple counter using JK FFs and obtain its timing waveforms.	Experimental board -1, 7476IC -2, LED -4, 220Ω -4, FG -4	Available
16			Verify the function of 7490 as decade and modulus counter, obtain timing waveforms.	Decade counter board -1, CRO -1	Available
17			Verify the function of up/down counter using 74190/74193 change the modulus of the counter and verify.	UP/DOWN counter board -1, CRO -1, IC74193, LED -4, Switches -4	Available
18			Verify the function of shift register (ICs like 7495,74194 etc.,).	Shift Register board -1	Available
19			Identify various memory ICs and note down their pin configuration from the data sheets: a)RAM b)ROM c)EPROM d)EEPROM.	Data sheets of different RAM, ROM, EPROM and EEPROM Ics.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
VI			**PRACTICE USING PSPICE ORCAD TOOL SOFTWARE**		
20	EC-307	**DIGITAL ELECTRONICS LAB**	Simulate AND, OR, NOT, EX-OR Gates Using Universal Gates (ICs 7400 and 7402)	PC -1, PSPICE ORCAD software	Available
21			Simulate Half Adder and Full Adder Circuits Using ICs 7408,7486, and 7432.	PC -1, PSPICE ORCAD software	Available
22			Simulate a 4_bit Magnitude Comparator using 7485 IC.	PC -1, PSPICE ORCAD software	Available
23			Simulate 8 X 1 Multiplexer using IC 74153.	PC -1, PSPICE ORCAD software	Available
24			Simulate 3 to 8 Decoder using IC 74138.	PC -1, PSPICE ORCAD software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**ANALOG COMMUNICATION**		
1			Conduct an experiment to observe AM signal waveform and determine modulataion index using CRO.	AM Experimental board, Dual Trace CRO	Available
2			Conduct an experiment to observe FM signal waveform and determine modulataion index using CRO.	FM Experimental board, Dual Trace CRO	Available
3			Identify the different sections in AM radio receiver.	AM Radio receiver, Multimeter.	Available
4			Obtain waveforms at different test points of AM radio receiver	AM Radio receiver, Multimeter, CRO	Available
5			Identify the different sections in FM radio receiver.	FM Radio receiver, Multimeter.	Available
6			Obtain waveforms at different test points of FM radio receiver.	FM Radio receiver, Multimeter, CRO	Available
7			Identify different secions of AM/FM transmitter.	AM and FM Transmitters	Available
8			Verify and observe pulse amplitude modulation and demodulation waveforms on CRO.	Pulse amplitude modulation and demodulation kit, Dual Trace CRO	Available
9	EC-308	**ANALOG AND DIGITAL COMMU NICATION SYSTEMS LAB**	Verify and observe pulse width modulation and demodulation waveforms on CRO.	Pulse width modulation and demodulation kit, Dual Trace CRO, Probes and patch cards.	Available
10			Observe pulse position modulation and demodulation waveforms on CRO.	Pulse position modulation and demodulation kit, Dual Trace CRO	Available
II			**DIGITAL COMMUNICATION**		
11			Setup a pulse code modulator/ Demodulator circuit and observe the waveforms.	PCM Experimental board, Dual Trace CRO	Available
12			Setup an ASK modulator and demodulator and observe the waveforms.	ASK modulator and demodulator kit, Dual Trace CRO	Available
13			Setup an FSK modulator and demodulator and observe the waveforms.	FSK modulator and demodulator kit, Dual Trace CRO, probes and patch cards.	Available
14			Setup an PSK modulator and demodulator and observe the waveforms.	PSK modulator and demodulator kit, Dual Trace CRO	Available
15			Perform an experiment on Time Divison Multiplexing/Demultiplexing circuit and observe the waveforms.	Time division multiplexing/ demultiplexing circuit boards, Dual Trace CRO	Available
16			Perform an experiment on Frequency Divison Multiplexing/Demultiplexing circuit and observe the waveforms.	Frequency division multiplexing/ demultiplexing circuit boards, Dual Trace CRO	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1	EC-309	COMMU NICATIO N SKILLS LAB	Listening I	Projector	Available
2			Listening II	Projector	Available
3			Introducing oneself	Projector and Pulblic Address system	Available
4			Describing objects	Projector and Pulblic Address system	Available
5			Describing events	Pulblic Address system	Available
6			Reporting past incidents	Pulblic Address system	Available
7			Speaking from observation / reading	Projector and Pulblic Address system	Available
8			JAM	Pulblic Address system	Available
9			Group discussion	Projector	Available
10			Mock interviews	Projector	Available
11			Making presentations	Projector and Desktop computer	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**OPERATIONAL AMPLIFIER CIRCUITS**		
1			Study Operational amplifier IC 741 and Quad opamp LM 324 and comparator LM 339 from data book	Data sheets of IC 741, LM 324, LM 339	Available
2			Implement and test 741 OpAmp as a) inverting amplifier, b) Non Inverting amplifier and c) Voltage follower (Buffer) – observe wave forms	OP-Amp trainer board -1, Function Gnerator -1, CRO -1	Available
3			Implement and test 741 Operation amplifier as a)summer b) Differentiator, c) Integrator and d) Scale changer	OP-Amp trainer board -1, Function Gnerator -1, CRO -1	Available
4			Implement Monostable multivibrator using OPAMP, observe waveforms	Monostable multivibrator board -1, CRO -1, Function Generator -1	Available
5			Implement Astable multivibrator using OPAMP, observe waveforms	Astable multivibrator board -1, CRO -1, Function Generator -1	Available
6			Implement Schmitt trigger using OPAMP, observe waveforms	OP-Amp trainer board -1, Function Gnerator -1, CRO -1	Available
7			Implement & test RC-phase shift oscillator Circuit using OpAmp	Bread board -1, Op-Amp -1, 100KΩ-Pot -1, 3.3KΩ -1, 6.8KΩ -3, 0.01μF -1,CRO -1	Available
8	EC-406	LINEAR ICS LAB	Implement & test Wien bridge oscillator Circuit using OpAmp	Bread board -1, 47KΩ-Pot -1, 10KΩ -1, 1.5KΩ -2, 0.1μF -2,CRO -1	Available
9			Implement D/A converter using R-2R ladder network/Binary Weighted type	D/A Converter board -1, Multimeter -1	Available
II			**555 IC**		
10			Implement Monostable multi vibrator using 555 timer and observe output waveforms on CRO	555 IC Trainer Board, CRO	Available
11			Implement Astable multivibrator using 555 timer and observe output waveforms on CRO	555 IC Trainer Board, CRO	Available
III			**PSPICE SIMULATION**		
12			Simulate a)summer b) Differentiator, c) Integrator and d) Scale changer using OPAMP in Pspice	PC -1, PSPICE software	Available
13			Simulate Monostable multivibrator using OPAMP in Pspice	PC -1, PSPICE software	Available
14			Simulate Astable multivibrator using OPAMP in Pspice	PC -1, PSPICE software	Available
15			Simulate Monostable multivibrator using 555 in Pspice	PC -1, PSPICE software	Available
16			Simulate Astable multivibrator using 555 in Pspice	PC -1, PSPICE software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**FAMILIARIZATION OF ASSEMBLER (TASM /MASM)**		
1			Familiarization of Assembler (TASM/MASM)	TASM/MASM software	Available
II			**8086 PROGRAMS TO PRACTICE DATA TRANSFER INSTRUCTIONS**		
2			Program to perform block transfer of data.	Microprocessor kit 8086, ASCII keyboard	Available
3			Program to perform block interchange.	Microprocessor kit 8086, ASCII keyboard	Available
III			**8086 PROGRAMS TO PRACTICE ARITHMETIC INSTRUCTIONS**		
4			Program to perform 16-bit addition.	Microprocessor kit 8086, ASCII keyboard	Available
5			Program to perform 16-bit subtraction	Microprocessor kit 8086, ASCII keyboard	Available
6			Program to perform 16-bit multiplication	Microprocessor kit 8086, ASCII keyboard	Available
7			Program to perform 16-bit division	Microprocessor kit 8086, ASCII keyboard	Available
8			Program to find LCM for the given data	Microprocessor kit 8086, ASCII keyboard	Available
9	EC-407	**MICROP ROCESS ORS LAB**	Program to find factorial of 8-bit data	Microprocessor kit 8086, ASCII keyboard	Available
IV			**8086 PROGRAMS TO PRACTICE LOGICAL/BIT MANIPULATION**		
10			Program to find 2's complement of given 16 bit number	Microprocessor kit 8086, ASCII keyboard	Available
11			Program to check whether the given number is even or odd	Microprocessor kit 8086, ASCII keyboard	Available
12			Program to convert binary code to gray code	Microprocessor kit 8086, ASCII keyboard	Available
V			**8086 PROGRAMS TO PRACTICE BRANCHING INSTRUCTIONS**		
13			Program to find the sum of first 'n' natural numbers	Microprocessor kit 8086, ASCII keyboard	Available
14			Program to find the sum of given 'n' numbers	Microprocessor kit 8086, ASCII keyboard	Available
15			Program to find biggest/smallest number in the given array	Microprocessor kit 8086, ASCII keyboard	Available
16			Program to arrange data in ascending/ descending order	Microprocessor kit 8086, ASCII keyboard	Available
17			Write a program for generating multiplication table for a given number	Microprocessor kit 8086, ASCII keyboard	Available
18			Write an assembly language program to count number of ones and zeros in a number.	Microprocessor kit 8086, ASCII keyboard	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**C PROGRAMMING BASICS**		
1			Familiarize with turbo Compiler features	Personal Computers, Turbo C	Available
2			Practice formatted Input / Output (printf and scanf) functions.	Personal Computers, Turbo C	Available
3			Practice with Various Operators in C	Personal Computers, Turbo C	Available
II			**DECISION AND LOOP CONTROL STATEMENTS**		
4			Practice with Decision & Control (if, if-else, nested if –else) Statements	Personal Computers, Turbo C	Available
5			Practice with Decision control (Switch –case structure) statements	Personal Computers, Turbo C	Available
6			Practice with loop control Statements	Personal Computers, Turbo C	Available
III			**EXERCISES ON FUNCTIONS**		
7			Practice the use of functions in C	Personal Computers, Turbo C	Available
IV			**ARRAY, STRINGS AND POINTERS IN C**		
8	EC-408	**C AND MAT LAB PRACTICE LAB**	Write and run small programs using single dimensional integer arrays	Personal Computers, Turbo C	Available
9			Write and run small programs using multidimensional integer arrays	Personal Computers, Turbo C	Available
10			Write and run small programs using string functions for string comparison, copying and concatenation	Personal Computers, Turbo C	Available
11			Write and run small programs using with pointers in 'C'	Personal Computers, Turbo C	Available
V			**STRUCTURES, UNIONS & PREPROCESSOR DIRECTIVES**		
12			Write and run small programs using Structures in C	Personal Computers, Turbo C	Available
13			Write and run small programs using C preprocessor Directives.	Personal Computers, Turbo C	Available
14			Practice command line arguments in C	Personal Computers, Turbo C	Available
VI			**MAT LAB PRACTICE**		
15			Familiarize with MATLAB Compiler environment, command line arguments, HELP and know about various tool boxes available in MATLAB	Personal Computers, MATLAB Software	Available
16			Write simple programs on decision making statements (if-end, if-else-end, nested if –else-end)	Personal Computers, MATLAB Software	Available
17			Write simple programs on loop control statements (while , for loops)	Personal Computers, MATLAB Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
18	EC-408	C AND MAT LAB PRACTICE LABORATORY	Write simple programs to create simple 1D & 2D arrays and perform addition & subtraction operations	Personal Computers, MATLAB Software	Available
19			Write simple programs to create 3X3 matrixes and perform : i) addition ;ii) subtraction; iii) multiplication; iv) transpose and v) inverse operations	Personal Computers, MATLAB Software	Available
20			Write simple programs to illustrate plot commands such as: i) plot(x,y) ;ii) fplot() iii) title(); ivi) xlabel(); v) ylabel(); vi) legend() in MATLAB	Personal Computers, MATLAB Software	Available
21			Know the procedure to convert MATLAB program to C code	Personal Computers, MATLAB Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**MEASUREMENTS**		
1			Extend the range of voltmeter and test	Single channel RPS, (0-1V) -1, (0-10V) -1, Voltmeters, DRB and .	Available
2			Extend the range of ammeter and test	Single channel RPS, (0-500mA) -1, 2KW, (0-10mA) -1, DRB and	Available
3			Measure L,C and R using LCR meter	LCR meter, different values of resistors, inductors, capacitors bread board and .	Available
4			Test some digital ICs using IC tester	IC tester and 14 pin, 16 pin Ics	Available
5			Measure frequency of a given signal using digital frequency meter	Function genertor, digital frequency meter and .	Available
6			Perform an experiment to verify series resonance	Function genertor, multimeter, Resistor-1KW, inductance box, capacitance box, bread board and .	Available
7	EC-409	CONSUM ER ELECTRO NICS & MEASURE MENTS LAB	Perform an experiment to verify parallel resonance	Function genertor, multimeter, Resistor-1KW, inductance box, capacitance box, bread board and .	Available
8			Perform an experiment to verify Thevenin's theorem.	Single channel RPS, 1KW -4, (0-25mA) -1, bread board, multimeter, DRB -1, (0-30V) -1 and .	Available
9			Perform an experiment to verify Super Position theorem	Dual channel RPS, 270W -3, (0-25mA) -1, bread board and .	Available
10			Perform an experiment to verify maximum power transfer theorem	Single channel RPS, DRB -1, 1KW -1, (0-10mA) -1, bread board and .	Available
II			**CRO**		
11			Connect Four 4 ohms speakers to obtain 4 Ohms Impedance and test for maximum power output by Audio amplifier at 4 ohms output terminals CRO	4Ω speakers -4, Audio Amplifier, CRO, and its probes.	Available
12			Use the controls of CRO to adjust intensity, Astigmatism and Focus	CRO -1 and its manual, probes function generator.	Available
13			Apply different waveforms using function generator and produce flicker free waveforms	Function generator, CRO and its probes.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
14	EC-409	**CONSU MER ELECTRO NICS & MEASUR EMENTS LAB**	Determine Vertical and Horizontal deflection sensitivity of CRO by applying standard signal provided on CRO	CRO and its probes.	Available
15			Measure signal amplitude using X10 CRO probe	CRO and its probes, X10 CRO probes and its manual.	Available
16			Observe the effect of Trigger control on the waveform and display the waveform from the set point	CRO and its probes, Function generator	Available
17			Observe charging and discharging curves of a capacitor using digital CRO and determine time constant of given RC circuit	Digital CRO and its manual.	Available
18			Measure AC and DC voltages using CRO	Function generator, Single channel RPS, 1KW resistor, bread board, CRO, , D.M.M. (Probes)	Available
19			Measure AC and DC currents using CRO	Function generator, Single channel RPS, 1KW resistor, bread board, CRO, , D.M.M. (Probes)	Available
20			Measure frequency of an unknown signal using Lissajous figures on CRO	Function generators -2, Dual channel CRO, probes.	Available
21			Measure phase difference between two signals using Lissajous figures on CRO	Function generators -2, Dual channel CRO, probes.	Available
III			**AUDIO AND VIDEO SYSTEMS**		
22			Arrange PA system with different speakers of varying impedances and microphones	Different speakers of varying impedances, microphone, Audio amplifier.	Available
23			Use different features of Smart TV	Smart T.V. and its manual	Available
24			Record and reproduce voice digitally	Microphone, P.C., Speakers and required software.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**MICROWAVE COMMUNICATIONS**		
			Study of microwave components such as Rectangular wave guide, fixed attenuators(X-5000 series), Tunable Probe, Wave guide detectable mount (Tunable), Klystron mount, Circulators, Slide screw tuners, multitone directional couplers, E-plane Tee, H-plane Tee, Magic Tee, Movable short, matched termination, pyramidal wave guide horn antenna, GUNN oscillator, PIN modulator, Isolators etc.	PPTs of the Microwave Devices and Projector	Available
II			**MOBILE COMMUNICATIONS**		
			Study of Mobile communications using trainer kit such as: Global System for Mobile Communication (GSM)	GSM Module and Mobile phone.	Available
III			**FIBRE OPTICS**		
1	EC-506	ADVANCED COMMUNICATIONS AND NETWORKING LAB	a) To setup Fiber optic analogue link b) To setup a Fiber optic digital link	a) Fibre Optic analogue transmission kit (Tx & Rx), CRO - 1 (Dual channel) b) Dual Trace CRO, Fibre optic digital transmission tester, probes cable manual.	Available
2			To verify modulation & Demodulationof light source by pulse width modulation technique	Fiber optic Analog transmission kit (Tx & Rx), Function generators-2, Pulse width Modulation board-1, Dual Trace CRO, Regulated Power Supply	Available
3			To test Fiber optic Voice Link	Fibre optic cable, 9V DC supply, Tx kit with microphone, Rx kit with speaker.	Available
4			To verify the NRZ & RZ modulation formats in Optical communication	Fibre optic Digital transmission kit, Fibre optic cable, Dual Trace CRO -1	Available
IV			**COMPUTER HARDWARE**		
5			To identify and note down mother board, Components and Chips	CPU	Available
6			To identify various Internal and External slots in the mother board and clean them with blower/Brush	CPU	Available
7			To practice inserting and removing RAM with care	CPU, RAM Cards	Available
8			To measure the output voltages of SMPS	SMPS, Multimeter	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
9			To disassemble the PC	Personal Computer	Available
10			To assemble the PC and test	Personal Computer, Multimeter	Available
11			To change CMOS Setup	Personal Computer	Available
12			To install Operating System Windows	Personal Computer -1, OS CD -1	Available
13			To verify the function of control panel settings	Personal Computer	Available
14			To partition and format Hard disks	Personal Computer	Available
V			**COMPUTER NETWORKING**		
15	EC-506	**ADVANCED COMMUNICATIONS AND NETWORKING LAB**	To identify and note down the specifications of various networking devices & Cables, Jacks, Connectors, Tools etc. used in Local Area Networks a) To prepare the UTP cable for cross and direct connections using crimping tool	UTP Cable (CAT 5E), RJ 45 Connectors, Crimping Tool.	Available
16			a) To transfer files between system in LAN b) Share the printer in a network	Personal Computer -2 (minimum), LAN cards -2, (Network Interface cards) Printer -1, UTP cable	Available
17			To test the Network using Ipconfig, ping/tracert and Netstat utilities and debug the network issues	Personal Computer -2	Available
18			To install and configure Network Devices: i) Hub ii) Switch iii) Routers	Personal Computer, Hub, switch, routers, UTP cable.	Available
19			To configure Host IP, Subnet Mask and Default Gateway in a system in LAN (TCP/IP configuration)	Personal Computer, LAN connection	Available
20			To install and configure Wireless NIC and transfer files between systems in LAN and Wireless LAN	Personal Computer, NIC -2 (Wire & Wireless), HUB (Wire & Wireless), UTP cables.	Available
21			To store the files in jCloud using Google drive and sync files using google sync	Personal Computer, Internet connection	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**FAMILIARIZATION WITH MICROCONTROLLER KIT AND**		
1			To work with Microcontroller kits and Simulators a) Familiarization of 8051 Microcontroller Kit b) Familiarization of 8051 Simulator KEIL (similar)	8051 Microcontroller Kit, 8051 Keil Simulator	Available
II			**8051 INSTRUCTION SET**		
2			To practice Arithmetic instructions of 8051 a) Write an ALP to demonstrate Addition, Subtraction, Division and Multiplication of 8 bit numbers b) Write an ALP to Add and Subtract 16 bit numbers c) Write an ALP to find LCM of given 2 decimal numbers	8051 Microcontroller kit, ASCII keyboard	Available
3	EC-507	**MICROCONTROLLERS LAB**	To practice Data transfer instructions: a) Write an ALP to Block move - 10 bytes of data from 0S30-0X39 to 0X40-0X49 b) Write an ALP to Block exchange - 10 bytes of data between 0X30 - 0X39 to 0X40 - 0X49	8051 Microcontroller kit, ASCII keyboard	Available
4			To practice Data Manipulation: a) To find Smallest/Largest number in 10 bytes of data from 0X30 - 0X39 (R3 - should store the smallest/ largest number and R4 - should store address of the smallest/largest number)	8051 Microcontroller kit, ASCII keyboard	Available
5			To practice Boolean & Logical instructions: a) To find 2's complement of a number using (CPL) instruction b) To convert Packed to Unpacked BCD (bit masking) using (ANL) instruction c) To convert Unpacked BCD to ASCII using (ORL) instruction	8051 Microcontroller kit, ASCII keyboard	Available
III			**TO IMPLEMENT COUNTERS, TIMERS**		
6			To implement a HEX Up/Down counter - (Program should check value @R0 = 0X30, if 0X30 = 0 then up counter else down counter)	8051 Microcontroller kit, ASCII keyboard	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
7			To implement Delays and Timers: To write a program in assembly language to produce required time delay a) by using instructions only, b) by using Timers	8051 Microcontroller kit, ASCII keyboard	Available
IV			**TO PRACTICE INTERFACING TECHNIQUES**		
8			Microcontroller Interfacing: a) Interfacing Switches and LEDs to 8051 i) To make an LED connected to port pin P1.5, light up for specific time on pressing a switch connected to port pin P2.3 ii) To write a program to make an LED connected to pin P1.7 to blink at a specific rate	AT89C51 Microcontroller Development kit, Push to On switch, LED	Available
9	EC-507	**MICROC ONTROL LERS LAB**	To interface 3-digit 7-segment LED display: a) To interface a single Dot Matrix Display and display the given number	AT89C51 Microcontroller Development Board, 12V DC battery, 2N2222 (NPN) -3, Common anode 3-digit 7-segment display, Resistors: 10KΩ -2, 470Ω -4, 1KΩ -8, Resistor pack -8x1KΩ, Crystal - 11.0592 MHz, capacitiors: 33pf - 2, reset button -1	Available
10			To itnerface a 4X4 matrix Key Board to 8051	AT89C51 Microcontroller Development Board, 16 X 2LCD module, 4X4 Matrix keyboard -1, Crystal - 110.592 MHz -1, capacitors: 22pf -2, electrolytic cap -10uf -1, 10KΩ -1, 10K preset -1	Available
11			To control the direction of rotation of a small DC motor	AT89C51 Microcontroller Development Board, 12V DC battery, L293D motor driver, DC motor, Electrolytic capacitor - 10mF, Ceramic capacitor - 33pF, Resistors: 10KW -4, Push buttons -3, .	Available
12			To burn executable code into flash memory for 89C51	KEIL Software, Personal Computer, Burner kit.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			**UNIT I: All about Making Presentations**		
			* The importance of presentations * Features of a good presentation * Opening a presentation * Building up the Body of the presentation * Use of linkers/ cohesive devices * Acceptable and good body language	Projector	Available
2			**Unit 2: Getting Started with Presentations**		
			Describing an Apparatus, templates and group presentations	Projector	Available
3			**Unit 3: Presentational Aids**	Desktop, flash cards, charts	Available
4			**Unit 4: Technical Presentation**		
			Use of Simple past tense in presenting experiments	Public Address System	Available
5			**Unit 5: Table/ grid showing the title of the topic from**		
			Presentation from Technical Subject	Desktop and Public Address System	Available
6			**Unit 6: Table/ grid showing the title of the topic from**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
7	EE-508	**PRESENTATION SKILLS**	**Unit 7: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
8			**Unit 8: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
9			**Unit 9: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
10			**Unit 10: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
11			**Unit 11: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
12			**Unit 12: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
13			**Unit 13: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
14			**Unit 14: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
15			**Unit 15: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**POWER ELECTRONICS DEVICES**		
1	EC-509	**INDUSTRIAL ELECTRONICS LAB**	Obtain V-I characteristics of SCR, TRIAC, DIAC, SUS, SBS, MOSFET	SCR TYN604 -1, 100Ω/20W resistors -2, (0-30V) -1, (0-100mA) -1, multimeter, Dual Channel RPS -1, bread board and , Silicon Unilateral Switch, Silicon Bilateral Switch.	Available
				DIAC: Experimental board of DIAC, (0-10mA) -1, (0-30V) -1, patch cards.	Available
				TRIAC: Experimental board of TRIAC, (0-10mA) -1, (0-25mA) -1, (0-30V) -1, patch cards.	Available
				MOSFET: IRF 740, Dual Channel RPS, (0-10V) -1, (0-500mA) -1, (0-25mA) -1, (0-30V) -1, D.M.M, Bread board and .	Available
2			Implement a MOSFET switch and control a 6V lamp using NAND gate	MOSFET: IRF 610 (N-Channel E-MOSFET), TTL NAND Gate - 5V, RPS , 10KΩ, 1KΩ, Fly Wheel Diode, Bread board and .	Available
3			Obtain the characteristics and determine the Instrinic Standoff ratio of UJT	UJT: 2N2646, Resistors: 300Ω -1, (0-10mA) -1, (0-25mA) -1, (0-10V) -1, (0-30V) -1, Dual channel RPS, bread board and .	Available
4			Construct UJT Relaxation oscillator circuit and observe the output waveforms on CRO	UJT Relaxation Oscillator Experimental board, Patch cards, Dual trace CRO and its probes.	Available
5			Construct a circuit to trigger SCR by UJT and control output power	UJT: 2N2646, UJT Relaxation Oscillator Experimental board, Patch cards, SCR TYN604, Small DC Motor 6V, Sngle channel RPS, Resistors: 120Ω -1, Dual Channel CRO, bread board and .	Available
6			Construct a simple Burglar alarm circuit using SCR and test it	SCR TYN604, BC547 Transistors -2, Resistors: 1KΩ -1, 100Ω -1, Capacitors: 0.1mF -1, 9V battery, Buzzer, Water tank, bread board and .	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
7			Construct a circuit to vary the speed of a 1 phase 230V AC motor or to control power of any AC load using TRIA-DIAC phase control, Observe the waveforms on CRO	3.3KΩ, 250KΩ Linear variable resistor, 0.1mF capacitor, ST2 DIAC, VTA06-600A TRIAC, Lamp or 1-f 230V AC Motor, bread board, AC supply and .	Available
II			**INVERTER, SERVO STABILIZERS & CVTs**		
8			Implement a square wave inverter circuit with centre tapped transformer, power MOSFETs and plot Regulation characteristics	Diodes: 1N4148 -3, 6OV, XFMR1M1, FET: IRF30, Centre Tapped Transformer and . (CVT - Continuously (NET) variable transmission)	Available
9			Construct a circuit to vary the speed of a small DC motor using Pulse Width Modulation	RPS, CRO, Small Dc Motor 6V, bread board, Tacho meter, Resistors: 10KΩ, 1KΩ, Capacitors: 47mF, 10mF, Diodes: 1N4148 -3, MOSFET IRF 740, 555IC, 100KΩ potentio meter and .	Available
10	EC-509	INDUSTRIAL ELECTRONICS LAB	Understand the construction of a Servo Stabilizer	Toroidal, Auto Transformer, Booster Transformer, Power Control circuit, Switch, Copper wire, knife, plier, tester, supply.	Available
11			Obtain the Regulation characteristics of Servo Stabilizer	Copper wire, Toroidal, Auto Transformer, Booster Transformer, Power Control circuit, Switch, Copper wire, knife, plier, tester, supply.	Available
12			Obtain Regulation characteristics of Constant Voltage Transformer	Copper wire, Toroidal, Auto Transformer, Booster Transformer, Power Control circuit, Switch, Copper wire, knife, plier, tester, PVC pipe, lamps, screws, AC supply, Ammeter: (0-5A).	Available
III			**TRANSDUCERS**		
13			Obtain the performance characteristics of LVDT	AC Source, LVDT, copper wire, screws, clamps, plier, knife, tester	Available
14			Obtain the performance characteristics of Thermocouple	Power supply, MC voltmeter, thermo couple meter, copper wire, tester, knife, plier.	Available
15			Obtain the performance characteristics of TDR	TDR, battery, fuse, trigger, copper wire, PVC pipe, supply, knife, plier.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
16	EC-509	INDUSTRIAL ELECTRONICS LAB	Construct a circuit to measure the temperature using IC LM335 and test	IC LM335, Resistors: 50KΩ, 10KΩ, 2KΩ -2, potentio meter, copper wire, knife, plier, supply.	Available
17			Obtain the characteristics of Load cell	Copper wire, Power supply, load cell, tester, knife, plier, sand paper.	Available
IV			**PROGRAMMABLE LOGIC CONTROLLERS**		
18			Familiarize with PLC tutor of PSIM	Personal Computer, PLC (VPLCT 02), PLC simulator - P SIM,	Available
19			Implement basic gates using PLC	Personal Computer, PLC (VPLCT 02), RS232, Patch cards, Versapro Software.	Available
20			Implement XOR, XNOR gates using PLC	Personal Computer, PLC (VPLCT 02), RS232, Patch cards, Versapro Software.	Available

D.EE.E.: EXPERIMENT-WISE EQUIPMENT

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**WIRING TOOLS AND ACCESSORIES**		
1			Identify the following electrical Wiring tools with respect to i) Size ii) Shape iii) Purpose iv) Speed v) Usage a) Screw drivers b) Pliers c) Drilling machines & Drilling Bits. d) Rawl plug jumper, and poker e) Voltage/line tester f) Splicers (insulation remover) g) Standard Wire gauge	Different Screw drivers, Pliers, Drilling machine, Rawl Plug Jumper, Poker, Tester, Plicers, Strandard Wire Guage	Available
2			Identify different types of Electrical Wiring accessories with respect to i) Size ii) Shape iii) Purpose iv) Use. a) Switches b) Ceiling roses c) Lamp Holders and Adopters d) Sockets e) Plug f) Fuses	One way switches,Two way switches, Ceiling rose, Lamp holder and adopters, Sockets, Plug, Fuses	Available
3	EE-108	ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY	Identify different types of main switches with respect to i) Rating ii) Purpose iii) Use. SP,DP mains, TP,ICDP, ICTP, SPDT, DPDT,TPDT, Changeover-Knife type/globular, Rotary, Micro, Modular switches.	SPST, Double pole mains, TP, ICDP, ICTP, SPDT, DPDT, TPDT, Change over	Available
4			Study of 2-pole and 3-pole MCB's with respect to rating, purpose anduse etc.	i) DP MCB - 16A/20A/32A ii) TP MCB - 30A/40A	Available
II			**ELECTRICAL WIRING JOINTS & SOLDERING PRACTICE**		
6			Prepare Straight joint/ Married joint	ACSR Conductor, Sand paper, PVC tape	Available
7			Prepare T joint	ACSR Conductor, Sand paper, PVC tape	Available
8			Prepare Western union joint	ACSR Conductor, Sand paper, PVC tape	Available
9			Prepare Pigtail joint	ACSR Conductor, Sand paper, PVC tape	Available
10			Get familiarized to use of various soldering tools and components	Different Soldering tools and components	Available
11			Solder simple electronic circuits with P.C.B.	PCB, Soldering Iron, Lead, Flux, Blade	Available
III			**LAMP CIRCUITS**		
12			Make a circuit with One lamp controlled by one switch with PVC surface conduit system	PVC wire, Saddler, 1 way switch, Batten holder, PVC Junction boxes, Screws	Available
13			Make a circuit with Two lamps controlled by two switches with PVC surface conduit system	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
14			Make a circuit with One lamp controlled by one switch and provision of 2/3-pin socket.	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available
15			Make a circuit for Stair Case wiring	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available
16			Make a circuit for Godown wiring	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available
17			Make a circuit for Electrical bell connection.	PVC Pipe, PVC wire, Saddler, Bell push switches, Batten holder, PVC Junction boxes, Lamp holders, Lamps, Bells, Screws	Available
IV			**EARTHING**		
18			Prepare Pipe Earthing	GI Pipe, Bear copper wire	Available
19			Prepare Plate Earthing	Copper plate, Bear copper wire	Available
V			**AC AND DC CIRCUITS**		
20		**ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY**	Demonstrate unidirectional current flow with 12 V batteries	12 V Battery, Multimeter	Available
21			Determine polarity using a Voltmeter /LED	LED, Multimeter	Available
22	EE-108		Demonstrate reversal of current using battery and DPDT switch	Battery, Multimeter, DPDT Switch	Available
23			Make an Electromagnet and test it on DC power supply	36 SWG Instulated copper wire, Iron plate, Multimeter	Available
24			Demonstrate AC using a Low voltage Transformer	Transformer, Multimeter	Available
25			Practice Series and Parallel connection of Lamps	Lamps, Switches, Wires	Available
26			Practice Bright and Dim light arrangement (using a series Lamp / using a Diode)	Lamps, Switches, Diodes	Available
VI			**RESISTANCE MEASUREMENT**		
25			Identify different types of resistors	i) Resistors ii) Multimeter	Available
26			Calculate Resistance by its color code	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter	Available
27			Measuring the resistance using multimeter	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter	Available
28			Connecting resistors in series and parallel and measuring the resistance using multimeter	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter iii) PCB	Available
29			Practice Rheostat connections	Rheostats 2KΩ/1.8A -- 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
VII			**CAPACITANCE MEASUREMENT**		
30			Identify different types of capacitors	i) Different types of capacitors ii) Multimeter	Available
31		**ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY**	Find the value and specifications of capacitor from Color code and Value printed	i) Different types of capacitors ii) Multimeter	Available
32			Demonstrate that capacitor can hold charge and, charging and discharging of Capacitor require a specific time.	i) Different types of capacitors ii) Multimeter iii) RPS	Available
33	EE-108		Investigate the effect of connecting capacitors in series and parallel	Capacitors, Bread Board, RLC meter	Available
34			Testing the capacitor usingmultimeter	Multimeter, Capacitors	Available
VIII			**BATTERY VOLTAGE MEASUREMENT**		
35			Measurement of Battery Voltage using Voltmeter and Multimeter	i) Battery 12V/7A - 1 No. ii) Voltmeter (0-30V) - 1 No. iii) Multimeter	Available
36			Connecting batteries in series and parallel and observing the output voltage using Voltmeter and DMM	i) Battery 1.5V- 6 Nos. ii) Voltmeter (0-10V) - 1 No. iii) Digital Multimeter	Available
37			Measurement of current supplied by Battery using Ammeter and Multimeter with Rheostat as load	Battery, Rheostat, Ammeter, Multimeter	Available
IX			**Test and repair of the Domestic appliances**		
			Testing and repair of electric heater	Electric Heater, Tester	Available
			Testing and repair of iron box and other domestic appliances	Iron Box, Tester	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Hands on practice on Vernier Calipers	Vernier calipers, cylinder, sphere	Available
2			Hands on practice on Screw gauge	Screw gauge, glass plate, wire.	Available
3			Verification of Parallelogram law of forces and Triangle law of forces	Drawing board fitted with two pulleys,, pins, twine thread, weight hangers, weight slots	Available
4			Simple pendulum	Pendulum Bobs of different diameters and material, thread, stop clock, meter scale, retort stand, rubber cork, vernier calipers.	Available
5			Velocity of sound in air – (Resonance method)	Resonating air column apparatus, Tuning Fork, Rubber Hammer.	Available
6	EE-109A	PHYSICS LABORATORY	Focal length and Focal power of convex lens (Separate & Combination)	Convex lenses, V-stand, Illuuminated object, screen, meter scale.	Available
7			Refractive index of solid using traveling microscope	Travelling microscope, glass slab, beaker, lycopodium powder.	Available
8			Surface tension of liquid using traveling microscope	Capillary tube, Travelling microscope, Bent pin, Retart stand, Beaker.	Available
9			Coefficient of viscosity by capillar	Aspirator bottle, stop clock, uniform capillary tube, physical balance, weight box.	Available
10			Boyle's law verification	Quill tube, meter scale, retort stand.	Available
11			Meter bridge	Meter bridge, jockey, galvano meter, plug key, battery, standard unknown resistance, unkonwn resistance.	Available
12			Mapping of magnet lines of force	Bar magnet, drawing board.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
1			Familiarization of methods for Volumetric analysis	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box, burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
2			Preparation of Standard Na2 CO3 and making solutions of different dilution solutions.	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box.	Available
3			Estimation of HCl solution using Standard Na2 CO3 solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
4			Estimation of NaOH using standard HCl solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
5			Estimation of H2SO4 using standard NaOH solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
6			Estimation of Mohr's Salt using standard KMnO4	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
7	EE-109B	CHEMISTRY LABORATORY	Determination of acidity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
8			Determination of alkalinity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
9			Determination of total hardness of water using standard EDTA solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
10			Estimation of Chlorides present in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
11			Estimation of Dissolved Oxygen (D.O) in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
12			Determination of PH using PH meter	Digital PH meter, combined electrode, volumetric flask, beaker, wash bottle	Available
13			Determination of conductivity of water and adjusting ionic strength required level.	Digital conductivity meter, conductivity cell, beaker and wash bottle	Available
14			Determination of turbidity of water	Nephelo turbidity meter, beakers, wash bottle	Available
15			Estimation of total solids present in water sample	China dish, balance, measuring jar, steam bath, oven, and desiccator.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**COMPUTER HARDWARE BASICS**		
1			a) To familiarize with a Computer System and its hardware connections. b) To start and Shutdown a Computer correctly c) To check the software details of the computer	Personal Computer, DOS	Available
2			To check the hardware present in your computer.	Personal Computer, PC Hardware expansion board	Available
II			**WINDOWS OPERATING SYSTEM**		
3			To explore Windows Desktop	Personal Computer, Windows XP or 7	Available
4			Working with Files and Folders	Personal Computer, Windows XP or 7	Available
5			Windows Accessories: Calculator – Notepad – WordPad – MS Paint	Personal Computer, Windows XP or 7	Available
III			**MS-WORD**		
6	EE-110	**COMPUTER FUNDAMENTALS LABORATORY**	To familiarize with Ribbon layout of MS Word Home - Insert - Page layout – References – Review - View	Personal Computer, Windows XP or 7, MS-Office Software	Available
7			To practice Word Processing Basics	Personal Computer, Windows XP or 7, MS-Office Software	Available
8			To practice Formatting techniques	Personal Computer, Windows XP or 7, MS-Office Software	Available
9			To insert a table of required number of rows and columns	Personal Computer, Windows XP or 7, MS-Office Software	Available
10			To insert Objects, Clipart and Hyperlinks	Personal Computer, Windows XP or 7, MS-Office Software	Available
11			To use Mail Merge feature of MS Word	Personal Computer, Windows XP or 7, MS-Office Software	Available
12			To use Equations and symbols features	Personal Computer, Windows XP or 7, MS-Office Software	Available
IV			**MS-EXCEL**		
13			To familiarize with MS-EXCEL layout	Personal Computer, Windows XP or 7, MS-Office Software	Available
14			To access and Enter data in the cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
15			To edit a spread sheet- Copy, Cut, Paste, and selecting Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
16			To use built in functions and Formatting Data	Personal Computer, Windows XP or 7, MS-Office Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
17			To create Excel Functions, Filling Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
18			To enter a Formula for automatic calculations	Personal Computer, Windows XP or 7, MS-Office Software	Available
19			To sort and filter data in table	Personal Computer, Windows XP or 7, MS-Office Software	Available
20			To practice Excel Graphs and Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
21			To develop lab reports of respective discipline	Personal Computer, Windows XP or 7, MS-Office Software	Available
22			To format a Worksheet in Excel, Page Setup and Print	Personal Computer, Windows XP or 7, MS-Office Software	Available
V			**MS-POWER POINT**		
23			To familiarize with Ribbon layout features of PowerPoint 2007.	Personal Computer, Windows XP or 7, MS-Office Software	Available
24			To create a simple PowerPoint Presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
25		**COMPUTER FUNDAMENTALS LABORATORY**	To set up a Master Slide in PowerPoint	Personal Computer, Windows XP or 7, MS-Office Software	Available
26	**EE-110**		To insert Text and Objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
27			To insert a Flow Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
28			To insert a Table	Personal Computer, Windows XP or 7, MS-Office Software	Available
29			To insert a Charts/Graphs	Personal Computer, Windows XP or 7, MS-Office Software	Available
30			To insert video and audio	Personal Computer, Windows XP or 7, MS-Office Software	Available
31			To practice Animating text and objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
32			To Review presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
VI			**ADOBE PHOTOSHOP**		
33			To familiarize with standard toolbox	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
34			To edit a photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
35			To insert Borders around photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
36	EE-110	COMPUTER FUNDAMENTALS LABORATORY	To change Background of a Photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
37			To change colors of Photograph.	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
38			To prepare a cover page for the book in your subject area	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
39			To adjust the brightness and contrast of the picture so that it gives an elegant look	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
40			To type a word and apply the shadow emboss effects	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**SPEED CONTROL AND TESTING OF DC MOTORS**		
1			Speed control of DC Shunt Motor by (a) Rheostatic control method (b) Field control method	Volt meter (0-300V), Ammeter (0-1A), Rheostat (290Ω/1.8A), Rheostat (110Ω/2.8A), Tachometer (0-3000 rpm)	Available
2			a) Obtain the performance of a DC Shunt Motor by conducting Swinburne's test. b) Obtain performance characteristics by conducting Brake Test on DC Shunt Motor	Volt meter (0-300V), Ammeter (0-10A), Rheostat (290Ω/1.8A), Tachometer (0-3000 rpm)	Available
3			Obtain performance characteristics by conducting Brake Test on DC Series Motor.	Volt meter (0-300V), Ammeter (0-10A), Tachometer (0-3000 rpm)	Available
4			Obtain performance characteristics by conducting Brake Test on DC Compound Motor.	Volt meter (0-300V), Ammeter (0-10A), Rheostat (290Ω/1.8A), Tachometer (0-3000 rpm)	Available
II			**CHARACTERISTICS OF DC GENERATORS**		
5		**D.C. MACHINES AND MEASUREMENTS LAB**	Obtain OCC of a DC shunt Generator at rated speed.	Volt meter (0-300V), Ammeter (0-1A), Rheostat (290Ω/1.8A) - 2 Nos., Tachometer (0-3000 rpm)	Available
6	EE-306		Obtain Internal and External characteristics of DC Shunt Generator.	Volt meter (0-300V), Ammeter (0-10A), Ammeter (0-1A), Rheostat (290Ω/1.8A) - 2 Nos., Tachometer (0-3000 rpm), Resistive load box (230V, 15A)	Available
III			**VERIFICATION OF NETWORK THEORMS AND CALIBRATION OF**		
7			Verification of Super position theorem	RPS (0-30 V), Resistors: 1KΩ, 200Ω, 470Ω, Ammeters: (0-1A), (0-20mA), Bread board	Available
8			Verification of Thevenin's theorem	RPS (0-30 V), Resistors: 1KΩ, 2.2KΩ, 3.3KΩ, Volt meter (0-10V), Ammeter (0-10mA), Bread board	Available
9			Calibration of Dynamometer type of wattmeter	Volt meter (0-300V), Ammeter (0-10A), Watt meter (300V, 10A) UPF, Resistive Load box	Available
10			Calibration of single phase Energy meter	Volt meter (0-300V), Ammeter (0-10A), Watt meter (230V, 10A) UPF, Energy meter (230V, 10A, 50Hz, 1500 rev/1Kwh), Resistive Load box	Available
IV			**1-ϕ A.C. CIRCUIT PARAMETERS**		
11			Determination of Idle & Energy components of current in a single phase Inductive circuit	Volt meter (0-300V), Ammeter (0-1A), Watt meter (LPF) 1/2A, 150/300/600V, Choke coil, 1-ϕ Auto Transformer.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
V			**MEASUREMENT OF RESISTANCE AND POWER**		
12			Measure the resistance Using Megger (a) Earth Resistance (b) Insulation Resistance	Megger, Electrodes - 3 Nos., Insulation tester, connection wires	Available
13	**EE-306**	**D.C. MACHINES AND MEASUREMENTS LAB**	Measurement of power in 1 $\emptyset$ circuit by a) 3-Voltmeter method b) 3-Ammeter method	*For 3-Voltmeter method:* Voltmeters: (0-150V)- 1No., (0-300V)- 2Nos, Ammeter (0-5A) - 1 No., 1- Auto Transformer (0-270V) - 1 No., Rheostat (50Ω/5A) - 1 No. Choke coil (230V, 10A) *For 3-Ammeter method:* Voltmeters: (0-300V)- 1No., Ammeters: (0-10A) - 2 Nos, (0-5A) - 1No., 1- Auto Transformer (0-270V) - 1 No., Rheostat (50Ω/5A) - 1 No. Choke coil (230V, 10A)	Available
14			Measurement of power in 3 $\emptyset$ balanced circuit by 2-Wattmeter method	Voltmeters: (0-600V)- 1No., Ammeters: (0-10A) - 1 No. Wattmeters (UPF) (300V, 10A) - 2 Nos. Load (3- - 1 No.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**SPECIAL LAMP CONNECTIONS**		
1			Control two Lamps by Series - Parallel connection using one 1-way switch & two 2-way switches with PVC surface conduit system	i) 2-way switches - 5A/250V - 2 Nos. ii) 1-way switch - 5A/250V - 1 No. iii) Batten holders - 60W/250V - 2 Nos. iv) 3-way junction boxes - 19mm - 3 Nos. v) 1-way junction boxes - Ø19mm - 2 Nos. vi) PVC pipe - Ø19mm - 2 meters vii) Clamps - Ø19mm - 5 Nos. viii) Screws - Ø19mm - 15 Nos. ix) PVC insulated copper wire - 1/18 (1.0mm2) - 10 meters.	Available
2			Control and practice the wiring for Fluorescent Lamp	i) Fluorescent lamp - 40W - 1 (230V) ii) Choke - 40W - 1 (230V) iii) Starter - 40W - 1 (230V) iv) Tube Light - 1 Nos. v) 1-way switch - 5A/230V - 1 No. vi) Fluorescent tube holder - 2 Nos. (6A, 230V)	Available
3	EE-307	ELECTRICAL WIRING AND MAINTENANCE LAB	Control and practice the wiring for LED Lamp	i) 1-way switch - 5A/230V - 1 No. ii) Batten lamp holders - 5A/230V - 1 No. iii) LED lamp - 9W/230V - 1 No. iv) PVC pipe - Ø19mm - 2 meters v) PVC junction boxes - Ø19mm - 2 Nos. vi) Clamps - Ø19mm - 4 Nos. vii) Screws - Ø19mm - 8 Nos.	Available
II			**WIRING PRACTICE FOR POWER LOADS**		
4			Control two sub- circuits through Energy meter, MCB's and two 1-way switches.	i) 1-Ø Energy meter-6A/250V - 1 No.ii) Miniature Circuit Breaker (MCB) 10A/250V - 1 No. iii) 1-way switch - 5A/230V - 3 Nos. iv) 3-Pin socket - 5A/250V - 1 No. v) Bulbs - 60W/250V - 2 Nos. vi) PVC pipe - Ø19mm - 4 meters vii) 3-way boxes - Ø19mm - 4 viii) 1-way PVC boxes - Ø19mm - 2 Nos. ix) PVC elbows - Ø19mm - 2 Nos. x) Clamps - Ø19mm - 8 Nos. xi) Screws - Ø19mm - 16 Nos. xii) Batten holders - 5A/250V - 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
5			Connect the Inverter to power supply through 2/3 pin socket and 1-way switch (Back up)	i) Inverter - 400VA/250V - 1 No. ii) Battery (lead-acid) - 12V, 90Ah - 1 No. iii) Lamps - 60W/230V - 4 Nos. iv) Lamp holders (batten holders) - 5A/250 V - 4 Nos. v) Elbow - Ø19mm - 1 No. vi) 3-way junction boxes - Ø19mm - 4 Nos. vii) PVC pipe - Ø19mm - 4 meters viii) PVC insulated copper wires- (1.0 mm^2) - 10 meters ix) Clamps - Ø19mm - 10 Nos. x) Screws - 20 Nos. xi) 2/3 pin socket - 5A/250V - 1 No. xii) 1-way switches - 5A/250V - 4 Nos.	Available
6	EE-307	ELECTRIC AL WIRING AND MAINTE NANCE LAB	Connect Computer by main switch board with a miniature circuit breaker.	i) CPU - 1.5 MHz processor - 1 No. ii) Desktop - LED screen - 1 No. iii) UPS - 1 No. iv) MCB - 6A/250V - 1 No. v) 3-pin sockets - 6A/230V - 3 Nos. vi) 1-way switches - 6A/230V - 3 Nos. vii) Keyboard - 1 No.	Available
III			**MOTOR CONNECTIONS**		
7			Prepare switch Board with DOL starter, MCB, 1-phase Preventer and Pilot lamps for 3 phase motor	i) DOL starter for 3HP motor - 1 No. ii) Miniature Circuit Breaker (MCB) - 32A/440 V - 1 No. iii) Batten holders - 5A/250V - 3 Nos. iv) Pilot lamps - 15W/250V - 3 Nos. v) PVC insulated copper wire - 3/20 - 20 meters vi) 3-Ø squirrel cage motor - 3HP - 1 No.	Available
8			Prepare switch board with star delta starter, MCB, Pilot lamps for 3 phase motor	i) Miniature Circuit Breaker (MCB) - 32A/440 V - 1 No. ii) Star-Delta starter for 3HP motor. iii) Batten holders - 5A/250V - 3 Nos. iv) Pilot lamps - 15W/250V - 3 Nos. v) Insulated copper wires - 3/20 - 20 meters vi) 3-Ø slipring induction motor - 3HP - 1 No.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
IV			**EARTHING**		
9			Prepare Pipe Earthing.	i) GI pipe - 38mm - 2.5m ii) GI pipe - 19mm - 1m iii) GI wire - 85 WG - 6m iv) GI jugs - 3 Nos. v) Nuts, balls, lock nuts and washer for 19mm - 2sets vi) GI bents - 2 Nos. vii) Cast Iron frame with hinger - 30x30 cm - 1 No. viii) Cast Iron cover - 0x30 cm - 1 No.ix) Funnel with wire mesh - 1 No. x) Charcoal (or) coal - 20 kg. xi) Salt - 20 Kg. xii) Cavtion plate pointer	Available
10	EE-307	**ELECTRICAL WIRING AND MAINTENANCE LAB**	Prepare Plate Earthing.	i) GI plate - 60cmx60cmx 6.3cm -1 No. ii) GI wire - 85 WG - 6m iii) GI pipe - 19mm - 1.5m iv) GI pipe - 12.7mm - 2m v) GI Nuts, bolts, washers - 6 sets vi) GI board - 12.7mm vii) Cast Iron frame with hinger - 30x30 cm - 1 No. viii) Cast Iron cover - 30x30 cm - 1 No. ix) GI jugs - 3 Nos. x) Funnel with wire mesh - 1 No. xi) Charcoal (or) coal - 20 kg. xii) Salt - 20 Kg. xiii) Cavtion plate pointer - 1 No.	Available
V			**TESTING AND REPAIR OF DOMESTIC APPLIANCES**		
11			Test and repair the Domestic appliances	i) Tester 500V - 1 No. ii) Cutting plier - 1 No. iii) Screw driver - 1 No. iv) Cutter - 1 No. v) Renches kit - 1 No.	Available
VI			**IDENTIFICATION OF TERMINALS OF DC MOTORS**		
12			Identify the terminals of given DC motors	DC shunt motor, Spanners se, Mutimeter, Megger, Test lamp	Available
VII			**OVERHAULING OF DC MACHINE**		
13			Perform the Overhauling of DC Machine.	3-induction motor, Multimeter, Megge, Test lamp - 1 No.	Available
VIII			**OVERHAULING OF AC MACHINE**		
14			Perform the Overhauling of AC Machine.	DC shunt motor/ DC series motor/ DC compound meter Test lamp,Megger -	Available
IX			**PRACTICE ON MOTOR WINDING**		
15			Practice on Motor winding.	AC motor/ DC motor Spanner set, Multimeter, Cuttingplier, Cutter	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**C PROGRAMMING BASICS**		
1			Editing, compiling and executing simple programs (using printf and scanf functions).	Personal Computers, Turbo C	Available
2			Exercises on operators in C.	Personal Computers, Turbo C	Available
II			**DECISION AND LOOP CONTROL STATEMENTS**		
3			Exercises on Selective Structures (if, if – else, else if statements).	Personal Computers, Turbo C	Available
4			Exercises on Selective Structures (switch statements and conditional operator).	Personal Computers, Turbo C	Available
5			Exercises on Repetitive Structures (while, do – while and for statements).	Personal Computers, Turbo C	Available
III			**EXERCISES ON FUNCTIONS**		
6			Exercises on functions to demonstrate prototyping, parameter passing, function returning values.	Personal Computers, Turbo C	Available
7	EE-308	C LANGUAGE LAB	Exercises on recursion.	Personal Computers, Turbo C	Available
IV			**ARRAY, STRINGS AND POINTERS IN C**		
8			Exercises on one dimensional arrays.	Personal Computers, Turbo C	Available
9			Exercises on two dimensional arrays.	Personal Computers, Turbo C	Available
10			Exercises on arrays and functions	Personal Computers, Turbo C	Available
11			Exercises on Strings handling functions comparison, copying and concatenation.	Personal Computers, Turbo C	Available
12			Exercises to demonstrate use of Pointers, pointers as function arguments, functions returning pointers	Personal Computers, Turbo C	Available
13			Exercises on arrays and pointers.	Personal Computers, Turbo C	Available
V			**STRUCTURES, UNIONS & PREPROCESSOR DIRECTIVES**		
14			Exercise on structures	Personal Computers, Turbo C	Available
15			Exercises on unions and C preprocessor Directives.	Personal Computers, Turbo C	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**CHARACTERISTICS OF ELECTRONIC DEVICES**		
1			Draw the forward & Reverse characteristics of Silicon diode	RPS, IN4007 Diode, Bread Board, Ammeters, Voltmeters	Available
2			Draw the forward & Reverse characteristics of Zener diode and find the Breakdown voltage	RPS, Zener Diode, Bread Board, Ammeters, Voltmeters, Resistors	Available
3			Draw the input and output characteristics of NPN Transistor a) In CB configuration and b) In CE configuration	Transistor Trainer Board	Available
4		ELECTRO NICS ENGINEE RING LAB-1	Draw the input and output characteristics of JFET and determine Pinchoff voltage and Transconductance	Transistor Trainer Board	Available
II	EE-309		**CIRCUITS**		
5			Implementing Half wave Rectifier with and without filter	Rectifier Trainer Board	Available
6			Implementing Full wave Rectifier with and without filter	Rectifier Trainer Board	Available
7			Implementing Bridge Rectifier with and without filter	Rectifier Trainer Board	Available
8			Build a Regulated Power supply and draw the Regulation characteristics i) **using Zener diode ii) using 3 terminal +ve Regulator IC**	RPS Board, Bread board, IC7805, RPS, 100mF, 10mF, 100nF, Multimeter, Resistors	Available
9			Implement a -ve 3 terminal Regulator IC and draw the Regulation characteristics	RPS Board, Bread board, IC7905, RPS, 100mF, 10mF, 100nF, Multimeter, Resistors	Available
10			Show that a FET can be used a constant current source with appropriate Bias	BFW11 -1, Single channel RPS, (0-20mA), LED, 1KPot, bread board	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**PERFORMANCE OF SINGLE PHASE TRANSFORMERS**		
1			Conduct load test on 1-phase Transformer and calculate efficiency and regulation	i) 1-Φ Transformer 110/230V - 1 No. ii) 1-Φ Auto Transformer (0-270V) - 1 No. iii) Voltmeter (MI) - (0-150V) - 1 No. iv) Voltmeter (MI) - (0-300V) - 1 No. v) Ammeters (MI) - (0-10A) - 2 Nos. vi) Wattmeter (UPF) - 150/300V, 10A -1No vii) Resistive load box 300V, 15A (3KW) - 1No.	Available
2	**EE-407**	**A.C. MACHINES LAB -1**	Conduct the following two tests on 1-phase Transformer i) O.C. test ii) S.C. tests and from the result a) Draw the equivalent circuit. b) Calculate efficiency at various loads and p.f.s c) find the load at which maximum efficiency occurs. d) Calculate All-day efficiency for the given load cycle of 24 hours.	*a) For O.C Test:* i) Ammeter (MI) (0-1A) - 1 No. ii) Voltmeter (MI) (0-150V) - 1 No. iii) Wattmeter (LPF) 1/2A, 150/300V - 1 No iv) Transformer 110V/230V - 1 No. *For S.C. Test* v) Voltmeter (MI) (0-150V) - 1 No. vi) Ammeter (MI) (0-10A) - 1 No. vii) Wattmeter (UPF) - 300V, 10A -1No. *For both Tests:* 1-Φ Auto Transformer (0-270V) - 1 No.	Available
II			**SUMPNER'S TEST AND SCOTT CONNECTION**		
3			Obtain the efficiency and regulation of two similar 1-phase transformers by conducting sumpner's test.	i) 1-Φ Auto Transformers (0-270V)- 2 Nos. ii) Voltmeter (MI) - (0-150V) - 1 No. iii) Voltmeter (MI) - (0-300V) - 2 No. iv) Ammeters (MI) - (0-10A) - 1 No. v) Ammeter (MI) - (0-1/2A) - 1 No. vi) Wattmeter (LPF), 1/2A, 150/300V- 1 No. vii) Wattmeter (UPF) - 300V, 10A -1No viii) 1-Φ Transformers 110V/230V - 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
4			Conduct scott connection (T-connection) on transformers	i) Main Transformer with tappings 1:1 ii) Teaset Transformer with tappings 1:1 iii) Voltmeters (MI) (0-300V) - 2 Nos. lv) Voltmeters (MI) (0-600V) - 1 No. v) Ammeters (MI) (0-10A) - 4 Nos. vi) Ammeters (MI) (0-5A) - 1 No. vii) 3- Auto Transformer (0-500V) - 1 No. viii) 1- Resistive load boxes 3KW, 230V, 15A - 2 Nos.	Available
III			**PARALLEL OPERATION OF TRANSFORMERS AND OIL TESTING KIT**		
5			Connect two identical 1-ph transformers in parallel and observe the load sharing	i) 1- Auto Transformers (0-270V)- 2 Nos. ii) Voltmeter (MI) - (0-150V/300V) - 2 Nos. iii) Ammeters (MI) - (0-10A) - 3 Nos. iv) 1- Resistive load boxes 3KW, 230V, 15A - 2 Nos. v) 1- Transformers 110V/230V - 2 Nos.	Available
IV	EE-407	A.C. MACHINES LAB -1	**PERFORMANCE OF OIL ALTERNATORS**		
6			Conduct (direct) load test on Alternator and obtain voltage regulation.	Voltmeter (MI) (0-600V) - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No. Motor - Alternator (M-A set) - 1 No. Tachometer (digital) (0-10000 rpm) - 1No.	Available
7			Obtain the regulation of Alternator by using synchronous impedance method.	Voltmeter (MI) (0-600V - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No. Motor - Alternator (M-A set) - 1 No. Tachometer (digital) (0-10000 rpm) - 1No.	Available
8			Synchronise the given Alternator with supply mains by using bright lamp method.	Motor - Alternator (M-A set) - 1 No. Voltmeter (MI) (0-600V) - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No Incondesecent lamps (60W) - 3 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1	EE-408	COMMUNICATION SKILLS LAB	Listening I	Projector	Available
2			Listening II	Projector	Available
3			Introducing oneself	Projector and Pulblic Address system	Available
4			Describing objects	Projector and Pulblic Address system	Available
5			Describing events	Pulblic Address system	Available
6			Reporting past incidents	Pulblic Address system	Available
7			Speaking from observation / reading	Projector and Pulblic Address system	Available
8			JAM	Pulblic Address system	Available
9			Group discussion	Projector	Available
10			Mock interviews	Projector	Available
11			Making presentations	Projector and Desktop computer	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**AMPLIFIERS AND OSCILLATORS**		
1			Plot the Frequency response characteristics of an RC coupled Amplifier, Calculate the Gain, f1, f2 and Bandwidth from the response	Transistor Trainer Board, Function Generator, RPS, AC milli voltmeter	Available
2			Observe the output of Colpitt's oscillator and measure frequency by varying components in the tank circuit	Colpitt's oscillator board, CRO, RPS	Available
3			Observe the output of Hartley oscillator and measure frequency by varying components in the tank circuit	Hartley oscillator board, CRO, RPS, CRO	Available
4			Observe the output of Crystal oscillator and measure frequency	Crystal oscillator board, CRO	Available
II			**PHOTO ELECTRIC DEVICES**		
5			Plot the characteristics of a Photo diode	Photo diode experimental board, Voltmeter (0-1V), Ammeter (0-500µA)	Available
6	EE-409	**ELECTRO NICS ENGINEE RING LAB-II**	Plot the characteristics of a Photo transistor	Photo transistor experimental board, (0-25mA), (0-30V)	Available
7			Plot the characteristics of LDR	Bread board, LDR -1, RPS (1 channel), Voltmeter (0-30V), (0-50mA), 4.7KΩ -1	Available
8			Plot the characteristics of LED	RPS -1, LEDs, Bread board, 220Ω resistor, Voltmeter (0-10V), ammater (0-10mA), (0-25mA)	Available
III			**OPERATIONAL AMPLIFIER CIRCUITS**		
9			Familiarize with Operational amplifier 741 and Quad Opamp LM324	Data sheets of IC 741 and LM 324	Available
#			Implement and test 741 OpAmp as Inverting Amplifier	Op-Amp trainer board, Dual Trace CRO	Available
#			Implement and test 741 OpAmp as Non-Inverting Amplifier	Op-Amp trainer board, Function generator, Dual Trace CRO	Available
#			Implement and test 741 OpAmp as Voltage Follower	Op-Amp trainer board, Dual Channel RPS, (0-30V) Voltmeter	Available
#			Implement and test 741 OpAmp as Summer	Op-Amp trainer board, Dual Channel RPS, (0-10V) Voltmeter	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
#			Implement and test 741 OpAmp as Subtractor	Op-Amp trainer board, Dual Channel RPS, (0-10V) Voltmeter	Available
#			Implement and test 741 OpAmp as Scale changer	Op-Amp trainer board, Dual Channel RPS, Multimeter	Available
#			Implement and test 741 OpAmp as Integrator	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
#	EE-409	**ELECTRO NICS ENGINEE RING LAB-II**	Implement and test 741 OpAmp as Differentiator	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
#			Implement and test Opamp Schmitt Trigger and draw characteristics	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
IV			**555 IC**		
#			Implement Monostable Multivibrator using 555 IC and observe waveforms	555 Experimental Board, Function Generator, Single channel RPS, Dual Trace CRO, multimeter,	Available
#			Implement Astable Multivibrator using 555 IC and observe waveforms	555 Experimental Board, Function Generator, Single channel RPS, Dual Trace CRO, multimeter,	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
I			**TESTS ON 1-PHASE AND 3-PHASE AC MOTORS**		
1			Conduct brake test on 3-phase squirrel cage induction motor.	3-ϕ squirrel cage induction motor 440V,10A,3HP -1 DOL Starter - 1 No. 3-ϕ Wattmeter (UPF) 600V, 10A - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer - 1 No.	Available
2	EE-506	A.C. MACHINES LAB - II	Conduct Brake test on 3-phase slip ring induction motor.	3-ϕ Auto Transformer (600V, 10A) - 1 No. 3-ϕ Wattmeter (UPF) 600V, 10A - 1 No. 3-ϕ Slip ring Indusction motor & Rotor Resistance box - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer - 1 No.	Available
3			Perform Load test on Single phase split type induction motor.	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Split phase induction motor - 1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer (Digital) (0-10000rpm) - 1 No.	Available
4			Perform Load test on single phase capacitor type induction motor	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Capacitor type induction motor -1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer (Digital) (0-10000rpm) - 1 No.	Available
5			Perform Load test on a single phase Universal motor	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Universal motor -1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Availa-ble or Not
II			**DRAWING CIRCLE DIAGRAM OF AC MOTORS**		
6			Conduct suitable tests and draw circle diagram of squirrel cage induction motor.	3-Φ Auto Transformer (500V, 10A) - 1 No. 3-Φ Wattmeter (UPF) 600V, 10A - 1 No. 3-Φ Squirrel cage Indusction motor - 1No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No.	Available
7	EE-506	A.C. MACHINES LAB - II	Conduct suitable tests and draw circle diagram of slip ring induction motor	3-Φ Auto Transformer (500V, 10A) - 1 No. 3-Φ Wattmeter (UPF) 600V, 10A - 1 No. 3-Φ Slip ring Indusction motor - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No.	Available
8			Conduct load test on synchronous motor and draw V and inverted V curves.	3-Φ Auto Transformer (500V, 10A) - 1 No. 3-Φ Wattmeter (UPF) 600V, 10A - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostat (800Ω/1.2A) - 1 No. Synchronous Motor - 1 No.	Available
III			**IDENTIFY AND RECTIFY FAULTS IN AC MOTORS AND STARTERS**		
9			Identify and rectify faults in AC motors.	Faulty motor test lamp	Available
10			Identify and rectify faults in AC starters.	AC starter	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**CHARACTERISTICS OF DIFFERENT POWER ELECTRONIC DEVICES**		
1			Plot the Characteristics of SCR	SCR, GTP, IGBT and Connecting wires	Available
2			Plot the Characteristics of IGBT, GTO, DIAC, TRIAC.	SCR, GTP, IGBT and Connecting wires	Available
II			**STUDY THE WORKING OF DIFFERENT POWER ELECTRONIC CIRCUITS**		
3			Study of the working of single phase half wave converter	Single Phase Half wave Converter Board	Available
4			Study of the working of single phase full wave converter	Single Phase Full wave Converter Board	Available
III			**SPEED CONTROL OF THE DC MOTOR USING THE POWER**		
5			Speed Control of DC motor using single phase full converter	Chopper circuit	Available
6			Speed Control of DC motor using Chopper	Chopper circuit	Available
IV		POWER ELECTRONICS AND PLC LAB	**SPEED CONTROL OF THE SINGLE PHASE MOTOR USING SCR**		
7	EE-507		Speed Control of 1-phase AC motor using TRIAC	Speed control of 1-Phase AC motor using TRIAC Board	Available
V			**EXECUTION OF THE DIFFERENT LADDER DIAGRAMS**		
8			Demonstrate PLC and Ladder diagram- Preparation , downloading and running	PLC Trainer, PLC Software	Available
9			Execute Ladder diagrams for different Logical Gates	PLC Trainer, PLC Software	Available
10			Execute Ladder diagrams using timers & counters	PLC Trainer, PLC Software	Available
VI			**EXECUTION OF THE LADDER DIAGRAMS WITH MODEL**		
10			Execute Ladder diagrams with model applications (i) DOL starter (ii)Star-Delta starter	PLC Trainer, PLC Software	Available
11			Execute Ladder diagrams with model applications (i) Stair case lighting .(ii) Traffic light controller	PLC Trainer, PLC Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
1			**UNIT I: All about Making Presentations**		
			* The importance of presentations * Features of a good presentation * Opening a presentation * Building up the Body of the presentation * Use of linkers/ cohesive devices * Acceptable and good body language	Projector	Available
2			**Unit 2: Getting Started with Presentations**		
			Describing an Apparatus, templates and group presentations	Projector	Available
3			**Unit 3: Presentational Aids**	Desktop, flash cards, charts	Available
4			**Unit 4: Technical Presentation**		
			Use of Simple past tense in presenting experiments	Public Address System	Available
5			**Unit 5: Table/ grid showing the title of the topic from**		
			Presentation from Technical Subject	Desktop and Public Address System	Available
6			**Unit 6: Table/ grid showing the title of the topic from**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
7	EE-508	**PRESENTATION SKILLS**	**Unit 7: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
8			**Unit 8: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
9			**Unit 9: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
10			**Unit 10: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
11			**Unit 11: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
12			**Unit 12: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
13			**Unit 13: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
14			**Unit 14: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
15			**Unit 15: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**LOGIC GATES**		
1			Verify the truth tables of Basic gates and Universal gates	Logic Trainer kit	Available
2			Show NAND gate and NOR gate as Universal gates	Logic Trainer kit	Available
II			**COMBINATIONAL LOGIC CIRCUITS**		
3			Realize a given Boolean function and obtain its truth table	Logic Trainer kit	Available
4			Construct Half Adder and Full Adder and verify the truth tables	Logic Trainer kit	Available
5			Verify the functin of 74138 decoder IC	Binary to Decimal decoder	Available
6			Verify the working of Multiplexer (Using IC 74153)	Multiplexer board	Available
7			Verify the functional table of 4-bit magnitude Comparator 7485 IC	4-bit magnitude comparator board	Available
III			**SEQUENTIAL LOGIC CIRCUITS**		
8			Construct and verify the truth tables of NAND & NOR latches	Logic Trainer kit	Available
9	EE-509	**DIGITAL ELECTRONICS AND MICROCONTROLLERS LAB**	Construct Clocked RS FF using NAND gates and verify its truth table	Fli-Flop board	Available
10			Verify the truth table of JK FF using 7476 IC	Fli-Flop board	Available
11			Construct D and T FFs using 7476 and verify the truth tables	Fli-Flop board	Available
IV			**MICROCONTROLLERS**		
12			Familiarization of 8051 Microcontroller Kit	8051 Microcontroller Kit	Available
13			Familiarization of 8051 Simulator EDSIM 51 (or similar)	Embedded simulator software, Personal Computer	Available
14			Write small ALP to demonstrate different register addressing techniques	8051 Microcontroller kit, ASCII Key Board	Available
15			Write an ALP to demonstrate Addition, Subtraction, Division and Multiplication of 8 bit numbers using Immediate data access	8051 Microcontroller kit, ASCII Key Board	Available
16			Write an ALP to add and subtract 16 bit numbers	8051 Microcontroller kit, ASCII Key Board	Available
17			Write an ALP to Square and Cube program	8051 Microcontroller kit, ASCII Key Board	Available
18			Write an ALP find LCM of given numbers	8051 Microcontroller kit, ASCII Key Board	Available
19			Write an ALP to find HCF of given numbers	8051 Microcontroller kit, ASCII Key Board	Available

D.EE.E.: EXPERIMENT-WISE EQUIPMENT

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
I			**WIRING TOOLS AND ACCESSORIES**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
1	EE-108	ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY	Identify the following electrical Wiring tools with respect to i) Size ii) Shape iii) Purpose iv) Speed v) Usage a) Screw drivers b) Pliers c) Drilling machines & Drilling Bits. d) Rawl plug jumper, and poker e) Voltage/line tester f) Splicers (insulation remover) g) Standard Wire gauge	Different Screw drivers, Pliers, Drilling machine, Rawl Plug Jumper, Poker, Tester, Plicers, Strandard Wire Guage	Available
2			Identify different types of Electrical Wiring accessories with respect to i) Size ii) Shape iii) Purpose iv) Use. a) Switches b) Ceiling roses c) Lamp Holders and Adopters d) Sockets e) Plug f) Fuses	One way switches,Two way switches, Ceiling rose, Lamp holder and adopters, Sockets, Plug, Fuses	Available
3			Identify different types of main switches with respect to i) Rating ii) Purpose iii) Use. SP,DP mains, TP,ICDP, ICTP, SPDT, DPDT,TPDT, Changeover-Knife type/globular, Rotary, Micro, Modular switches.	SPST, Double pole mains, TP, ICDP, ICTP, SPDT, DPDT, TPDT, Change over	Available
4			Study of 2-pole and 3-pole MCB's with respect to rating, purpose anduse etc.	i) DP MCB - 16A/20A/32A ii) TP MCB - 30A/40A	Available
II			**ELECTRICAL WIRING JOINTS & SOLDERING PRACTICE**		
6			Prepare Straight joint/ Married joint	ACSR Conductor, Sand paper, PVC tape	Available
7			Prepare T joint	ACSR Conductor, Sand paper, PVC tape	Available
8			Prepare Western union joint	ACSR Conductor, Sand paper, PVC tape	Available
9			Prepare Pigtail joint	ACSR Conductor, Sand paper, PVC tape	Available
10			Get familiarized to use of various soldering tools and components	Different Soldering tools and components	Available
11			Solder simple electronic circuits with P.C.B.	PCB, Soldering Iron, Lead, Flux, Blade	Available
III			**LAMP CIRCUITS**		
12			Make a circuit with One lamp controlled by one switch with PVC surface conduit system	PVC wire, Saddler, 1 way switch, Batten holder, PVC Junction boxes, Screws	Available
13			Make a circuit with Two lamps controlled by two switches with PVC surface conduit system	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
14			Make a circuit with One lamp controlled by one switch and provision of 2/3-pin socket.	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Availa-ble or Not
15			Make a circuit for Stair Case wiring	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available
16			Make a circuit for Godown wiring	PVC wire, Saddler, 1 way switches, Batten holder, PVC Junction boxes, Screws	Available
17			Make a circuit for Electrical bell connection.	PVC Pipe, PVC wire, Saddler, Bell push switches, Batten holder, PVC Junction boxes, Lamp holders, Lamps, Bells, Screws	Available
IV			**EARTHING**		
18			Prepare Pipe Earthing	GI Pipe, Bear copper wire	Available
19			Prepare Plate Earthing	Copper plate, Bear copper wire	Available
V			**AC AND DC CIRCUITS**		
20	EE-108	ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY	Demonstrate unidirectional current flow with 12 V batteries	12 V Battery, Multimeter	Available
21			Determine polarity using a Voltmeter /LED	LED, Multimeter	Available
22			Demonstrate reversal of current using battery and DPDT switch	Battery, Multimeter, DPDT Switch	Available
23			Make an Electromagnet and test it on DC power supply	36 SWG Instulated copper wire, Iron plate, Multimeter	Available
24			Demonstrate AC using a Low voltage Transformer	Transformer, Multimeter	Available
25			Practice Series and Parallel connection of Lamps	Lamps, Switches, Wires	Available
26			Practice Bright and Dim light arrangement (using a series Lamp / using a Diode)	Lamps, Switches, Diodes	Available
VI			**RESISTANCE MEASUREMENT**		
25			Identify different types of resistors	i) Resistors ii) Multimeter	Available
26			Calculate Resistance by its color code	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter	Available
27			Measuring the resistance using multimeter	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter	Available
28			Connecting resistors in series and parallel and measuring the resistance using multimeter	i) Different types of resistors. 100Ω/200Ω/1KΩ/2KΩ etc. ii) Multimeter iii) PCB	Available
29			Practice Rheostat connections	Rheostats 2KΩ/1.8A -- 2 Nos.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
VII			**CAPACITANCE MEASUREMENT**		

S. No.	Subject code	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
30		ELECTRICAL WORKSHOP & WIRING PRACTICE LABORATORY	Identify different types of capacitors	i) Different types of capacitors ii) Multimeter	Available
31			Find the value and specifications of capacitor from Color code and Value printed	i) Different types of capacitors ii) Multimeter	Available
32			Demonstrate that capacitor can hold charge and, charging and discharging of Capacitor require a specific time.	i) Different types of capacitors ii) Multimeter iii) RPS	Available
33	EE-108		Investigate the effect of connecting capacitors in series and parallel	Capacitors, Bread Board, RLC meter	Available
34			Testing the capacitor usingmultimeter	Multimeter, Capacitors	Available
VIII			**BATTERY VOLTAGE MEASUREMENT**		
35			Measurement of Battery Voltage using Voltmeter and Multimeter	i) Battery 12V/7A - 1 No. ii) Voltmeter (0-30V) - 1 No. iii) Multimeter	Available
36			Connecting batteries in series and parallel and observing the output voltage using Voltmeter and DMM	i) Battery 1.5V- 6 Nos. ii) Voltmeter (0-10V) - 1 No. iii) Digital Multimeter	Available
37			Measurement of current supplied by Battery using Ammeter and Multimeter with Rheostat as load	Battery, Rheostat, Ammeter, Multimeter	Available
IX			**Test and repair of the Domestic appliances**		
			Testing and repair of electric heater	Electric Heater, Tester	Available
			Testing and repair of iron box and other domestic appliances	Iron Box, Tester	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
1			Hands on practice on Vernier Calipers	Vernier calipers, cylinder, sphere	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
2			Hands on practice on Screw gauge	Screw gauge, glass plate, wire.	Available
3			Verification of Parallelogram law of forces and Triangle law of forces	Drawing board fitted with two pulleys,, pins, twine thread, weight hangers, weight slots	Available
4			Simple pendulum	Pendulum Bobs of different diameters and material, thread, stop clock, meter scale, retort stand, rubber cork, vernier calipers.	Available
5			Velocity of sound in air – (Resonance method)	Resonating air column apparatus, Tuning Fork, Rubber Hammer	Available
6	EE-109A	PHYSICS LABORA TORY	Focal length and Focal power of convex lens (Separate & Combination)	Convex lenses, V-stand, Illuuminated object, screen, meter scale.	Available
7			Refractive index of solid using traveling microscope	Travelling microscope, glass slab, beaker, lycopodium powder	Available
8			Surface tension of liquid using traveling microscope	Capillary tube, Travelling microscope, Bent pin, Retart stand, Beaker.	Available
9			Coefficient of viscosity by capillar	Aspirator bottle, stop clock, uniform capillary tube, physical balance, weight box.	Available
10			Boyle's law verification	Quill tube, meter scale, retort stand.	Available
11			Meter bridge	Meter bridge, jockey, galvano meter, plug key, battery, standard unknown resistance, unkonwn resistance	Available
12			Mapping of magnet lines of force	Bar magnet, drawing board.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa- ble or Not

S.No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
1	EE-109B	CHEMISTRY LABORATORY	Familiarization of methods for Volumetric analysis	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box, burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
2			Preparation of Standard Na2 CO3 and making solutions of different dilution solutions.	Volumetric Flask, glass funnel, wash bottle, weighing bottle, balance, weight box.	Available
3			Estimation of HCl solution using Standard Na2 CO3 solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
4			Estimation of NaOH using standard HCl solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
5			Estimation of H2SO4 using standard NaOH solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
6			Estimation of Mohr's Salt using standard KMnO4	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
7			Determination of acidity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
8			Determination of alkalinity of water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
9			Determination of total hardness of water using standard EDTA solution	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
10			Estimation of Chlorides present in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
11			Estimation of Dissolved Oxygen (D.O) in water sample	Burette, pipette, conical flask, burette stand, glazed tile and beakers.	Available
12			Determination of PH using PH meter	Digital PH meter, combined electrode, volumetric flask, beaker, wash bottle	Available
13			Determination of conductivity of water and adjusting ionic strength required level.	Digital conductivity meter, conductivity cell, beaker and wash bottle	Available
14			Determination of turbidity of water	Nephelo turbidity meter, beakers, wash bottle	Available
15			Estimation of total solids present in water sample	China dish, balance, measuring jar, steam bath, oven, and desiccator.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
I			**COMPUTER HARDWARE BASICS**		

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment Required	Available or Not
1	EE-110	COMPUTER FUNDAMENTALS LABORATORY	a) To familiarize with a Computer System and its hardware connections. b) To start and Shutdown a Computer correctly c) To check the software details of the computer	Personal Computer, DOS	Available
2			To check the hardware present in your computer.	Personal Computer, PC Hardware expansion board	Available
II			**WINDOWS OPERATING SYSTEM**		
3			To explore Windows Desktop	Personal Computer, Windows XP or 7	Available
4			Working with Files and Folders	Personal Computer, Windows XP or 7	Available
5			Windows Accessories: Calculator – Notepad – WordPad – MS Paint	Personal Computer, Windows XP or 7	Available
III			**MS-WORD**		
6			To familiarize with Ribbon layout of MS Word Home - Insert - Page layout – References – Review - View	Personal Computer, Windows XP or 7, MS-Office Software	Available
7			To practice Word Processing Basics	Personal Computer, Windows XP or 7, MS-Office Software	Available
8			To practice Formatting techniques	Personal Computer, Windows XP or 7, MS-Office Software	Available
9			To insert a table of required number of rows and columns	Personal Computer, Windows XP or 7, MS-Office Software	Available
10			To insert Objects, Clipart and Hyperlinks	Personal Computer, Windows XP or 7, MS-Office Software	Available
11			To use Mail Merge feature of MS Word	Personal Computer, Windows XP or 7, MS-Office Software	Available
12			To use Equations and symbols features	Personal Computer, Windows XP or 7, MS-Office Software	Available
IV			**MS-EXCEL**		
13			To familiarize with MS-EXCEL layout	Personal Computer, Windows XP or 7, MS-Office Software	Available
14			To access and Enter data in the cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
15			To edit a spread sheet- Copy, Cut, Paste, and selecting Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available
16			To use built in functions and Formatting Data	Personal Computer, Windows XP or 7, MS-Office Software	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
17			To create Excel Functions, Filling Cells	Personal Computer, Windows XP or 7, MS-Office Software	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the Equipment Required	Available or Not
18			To enter a Formula for automatic calculations	Personal Computer, Windows XP or 7, MS-Office Software	Available
19			To sort and filter data in table	Personal Computer, Windows XP or 7, MS-Office Software	Available
20			To practice Excel Graphs and Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
21			To develop lab reports of respective discipline	Personal Computer, Windows XP or 7, MS-Office Software	Available
22			To format a Worksheet in Excel, Page Setup and Print	Personal Computer, Windows XP or 7, MS-Office Software	Available
V			**MS-POWER POINT**		
23			To familiarize with Ribbon layout features of PowerPoint 2007.	Personal Computer, Windows XP or 7, MS-Office Software	Available
24			To create a simple PowerPoint Presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
25		**COMPUTER FUNDAMENTALS LABORATORY**	To set up a Master Slide in PowerPoint	Personal Computer, Windows XP or 7, MS-Office Software	Available
26	EE-110		To insert Text and Objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
27			To insert a Flow Charts	Personal Computer, Windows XP or 7, MS-Office Software	Available
28			To insert a Table	Personal Computer, Windows XP or 7, MS-Office Software	Available
29			To insert a Charts/Graphs	Personal Computer, Windows XP or 7, MS-Office Software	Available
30			To insert video and audio	Personal Computer, Windows XP or 7, MS-Office Software	Available
31			To practice Animating text and objects	Personal Computer, Windows XP or 7, MS-Office Software	Available
32			To Review presentation	Personal Computer, Windows XP or 7, MS-Office Software	Available
VI			**ADOBE PHOTOSHOP**		
33			To familiarize with standard toolbox	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
34			To edit a photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
35			To insert Borders around photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the Equipment	
				Required	Available or Not
36			To change Background of a Photograph	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
37	EE-110	COMPUTER FUNDAMENTALS LABORATORY	To change colors of Photograph.	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
38			To prepare a cover page for the book in your subject area	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
39			To adjust the brightness and contrast of the picture so that it gives an elegant look	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available
40			To type a word and apply the shadow emboss effects	Personal Computer, Windows XP or 7,Adobe Photoshop Software	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**SPEED CONTROL AND TESTING OF DC MOTORS**		
1			Speed control of DC Shunt Motor by (a) Rheostatic control method (b) Field control method	Volt meter (0-300V), Ammeter (0-1A), Rheostat (290Ω/1.8A), Rheostat (110Ω/2.8A), Tachometer (0-3000 rpm)	Available

			a) Obtain the performance of a DC Shunt Motor by conducting Swinburne's test. b) Obtain performance characteristics by conducting Brake Test on DC Shunt Motor	Volt meter (0-300V), Ammeter (0-10A), Rheostat (290Ω/1.8A), Tachometer (0-3000 rpm)	Available
2					
3			Obtain performance characteristics by conducting Brake Test on DC Series Motor.	Volt meter (0-300V), Ammeter (0-10A), Tachometer (0-3000 rpm)	Available
4			Obtain performance characteristics by conducting Brake Test on DC Compound Motor.	Volt meter (0-300V), Ammeter (0-10A), Rheostat (290Ω/1.8A), Tachometer (0-3000 rpm)	Available
II			**CHARACTERISTICS OF DC GENERATORS**		
5			Obtain OCC of a DC shunt Generator at rated speed.	Volt meter (0-300V), Ammeter (0-1A), Rheostat (290Ω/1.8A) - 2 Nos., Tachometer (0-3000 rpm)	Available
6	EE-306	D.C. MACHINES AND MEASUREMENTS LAB	Obtain Internal and External characteristics of DC Shunt Generator.	Volt meter (0-300V), Ammeter (0-10A), Ammeter (0-1A), Rheostat (290Ω/1.8A) - 2 Nos., Tachometer (0-3000 rpm), Resistive load box (230V, 15A)	Available
III			**VERIFICATION OF NETWORK THEORMS AND CALIBRATION OF**		
7			Verification of Super position theorem	RPS (0-30 V), Resistors: 1KΩ, 200Ω, 470Ω, Ammeters: (0-1A), (0-20mA), Bread board	Available
8			Verification of Thevenin's theorem	RPS (0-30 V), Resistors: 1KΩ, 2.2KΩ, 3.3KΩ, Volt meter (0-10V), Ammeter (0-10mA), Bread board	Available
9			Calibration of Dynamometer type of wattmeter	Volt meter (0-300V), Ammeter (0-10A), Watt meter (300V, 10A) UPF, Resistive Load box	Available
10			Calibration of single phase Energy meter	Volt meter (0-300V), Ammeter (0-10A), Watt meter (230V, 10A) UPF, Energy meter (230V, 10A, 50Hz, 1500 rev/1Kwh), Resistive Load box	Available
IV			**1-Φ A.C. CIRCUIT PARAMETERS**		
11			Determination of Idle & Energy components of current in a single phase Inductive circuit	Volt meter (0-300V), Ammeter (0-1A), Watt meter (LPF) 1/2A, 150/300/600V, Choke coil, 1-Φ Auto Transformer.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
V			**MEASUREMENT OF RESISTANCE AND POWER**		
12			Measure the resistance Using Megger (a) Earth Resistance (b) Insulation Resistance	Megger, Electrodes - 3 Nos., Insulation tester, connection wires	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
13	EE-306	D.C. MACHINES AND MEASUREMENTS LAB	Measurement of power in 1∅ circuit by a) 3-Voltmeter method b) 3-Ammeter method	*For 3-Voltmeter method:* Voltmeters: (0-150V)- 1No., (0-300V)- 2Nos, Ammeter (0-5A) - 1 No., 1-∅ Auto Transformer (0-270V) - 1 No., Rheostat (50Ω/5A) - 1 No. Choke coil (230V, 10A) *For 3-Ammeter method:* Voltmeters: (0-300V)- 1No., Ammeters: (0-10A) - 2 Nos, (0-5A) - 1No., 1-∅ Auto Transformer (0-270V) - 1 No., Rheostat (50Ω/5A) - 1 No. Choke coil (230V, 10A)	Available
14			Measurement of power in 3∅ balanced circuit by 2-Wattmeter method	Voltmeters: (0-600V)- 1No., Ammeters: (0-10A) - 1 No. Wattmeters (UPF) (300V, 10A) - 2 Nos. Load (3-∅) - 1 No.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
I			**SPECIAL LAMP CONNECTIONS**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Availa-ble or Not
1	EE-307	ELECTRICAL WIRING AND MAINTENANCE LAB	Control two Lamps by Series - Parallel connection using one 1-way switch & two 2-way switches with PVC surface conduit system	i) 2-way switches - 5A/250V - 2 Nos. ii) 1-way switch - 5A/250V - 1 No. iii) Batten holders - 60W/250V - 2 Nos. iv) 3-way junction boxes - 19mm - 3 Nos. v) 1-way junction boxes - Ø19mm - 2 Nos. vi) PVC pipe - Ø19mm - 2 meters vii) Clamps - Ø19mm - 5 Nos. viii) Screws - Ø19mm - 15 Nos. ix) PVC insulated copper wire - 1/18 (1.0mm2) - 10 meters.	Available
2			Control and practice the wiring for Fluorescent Lamp	i) Fluorescent lamp - 40W - 1 (230V) ii) Choke - 40W - 1 (230V) iii) Starter - 40W - 1 (230V) iv) Tube Light - 1 Nos. v) 1-way switch - 5A/230V - 1 No. vi) Fluorescent tube holder - 2 Nos. (6A, 230V)	Available
3			Control and practice the wiring for LED Lamp	i) 1-way switch - 5A/230V - 1 No. ii) Batten lamp holders - 5A/230V - 1 No. iii) LED lamp - 9W/230V - 1 No. iv) PVC pipe - Ø19mm - 2 meters v) PVC junction boxes - Ø19mm - 2 Nos. vi) Clamps - Ø19mm - 4 Nos. vii) Screws - Ø19mm - 8 Nos.	Available
II			**WIRING PRACTICE FOR POWER LOADS**		
4			Control two sub- circuits through Energy meter, MCB's and two 1-way switches.	i) 1-Ø Energy meter-6A/250V - 1 No.ii) Miniature Circuit Breaker (MCB) 10A/250V - 1 No. iii) 1-way switch - 5A/230V - 3 Nos. iv) 3-Pin socket - 5A/250V - 1 No. v) Bulbs - 60W/250V - 2 Nos. vi) PVC pipe - Ø19mm - 4 meters vii) 3-way boxes - Ø19mm - 4 viii) 1-way PVC boxes - Ø19mm - 2 Nos. ix) PVC elbows - Ø19mm - 2 Nos. x) Clamps - Ø19mm - 8 Nos. xi) Screws - Ø19mm - 16 Nos. xii) Batten holders - 5A/250V - 2 Nos.	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
5	EE-307	ELECTRICAL WIRING AND MAINTENANCE LAB	Connect the Inverter to power supply through 2/3 pin socket and 1-way switch (Back up)	i) Inverter - 400VA/250V - 1 No. ii) Battery (lead-acid) - 12V, 90Ah - 1 No. iii) Lamps - 60W/230V - 4 Nos. iv) Lamp holders (batten holders) - 5A/250 V - 4 Nos. v) Elbow - ⌀19mm - 1 No. vi) 3-way junction boxes - ⌀19mm - 4 Nos. vii) PVC pipe - ⌀19mm - 4 meters viii) PVC insulated copper wires- (1.0 mm^2) - 10 meters ix) Clamps - ⌀19mm - 10 Nos. x) Screws - 20 Nos. xi) 2/3 pin socket - 5A/250V - 1 No. xii) 1-way switches - 5A/250V - 4 Nos.	Available
6			Connect Computer by main switch board with a miniature circuit breaker.	i) CPU - 1.5 MHz processor - 1 No. ii) Desktop - LED screen - 1 No. iii) UPS - 1 No. iv) MCB - 6A/250V - 1 No. v) 3-pin sockets - 6A/230V - 3 Nos. vi) 1-way switches - 6A/230V - 3 Nos. vii) Keyboard - 1 No.	Available
III			**MOTOR CONNECTIONS**		
7			Prepare switch Board with DOL starter, MCB, 1-phase Preventer and Pilot lamps for 3 phase motor	i) DOL starter for 3HP motor - 1 No. ii) Miniature Circuit Breaker (MCB) - 32A/440 V - 1 No. iii) Batten holders - 5A/250V - 3 Nos. iv) Pilot lamps - 15W/250V - 3 Nos. v) PVC insulated copper wire - 3/20 - 20 meters vi) 3-⌀ squirrel cage motor - 3HP - 1 No.	Available
8			Prepare switch board with star delta starter, MCB, Pilot lamps for 3 phase motor	i) Miniature Circuit Breaker (MCB) - 32A/440 V - 1 No. ii) Star-Delta starter for 3HP motor. iii) Batten holders - 5A/250V - 3 Nos. iv) Pilot lamps - 15W/250V - 3 Nos. v) Insulated copper wires - 3/20 - 20 meters vi) 3-⌀ slipring induction motor - 3HP - 1 No.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
IV			**EARTHING**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
9			Prepare Pipe Earthing.	i) GI pipe - Ø38mm - 2.5m ii) GI pipe - Ø19mm - 1m iii) GI wire - 85 WG - 6m iv) GI jugs - 3 Nos. v) Nuts, balls, lock nuts and washer for Ø19mm - 2sets vi) GI bents - 2 Nos. vii) Cast Iron frame with hinger - 30x30 cm - 1 No. viii) Cast Iron cover - 0x30 cm - 1 No.ix) Funnel with wire mesh - 1 No. x) Charcoal (or) coal - 20 kg. xi) Salt - 20 Kg. xii) Cavtion plate pointer	Available
10	EE-307	ELECTRICAL WIRING AND MAINTENANCE LAB	Prepare Plate Earthing.	i) GI plate - 60cmx60cmx 6.3cm -1 No. ii) GI wire - 85 WG - 6m iii) GI pipe - Ø19mm - 1.5m iv) GI pipe - Ø12.7mm - 2m v) GI Nuts, bolts, washers - 6 sets vi) GI board - Ø12.7mm vii) Cast Iron frame with hinger - 30x30 cm - 1 No. viii) Cast Iron cover - 30x30 cm - 1 No. ix) GI jugs - 3 Nos. x) Funnel with wire mesh - 1 No. xi) Charcoal (or) coal - 20 kg. xii) Salt - 20 Kg. xiii) Cavtion plate pointer - 1 No.	Available
V			**TESTING AND REPAIR OF DOMESTIC APPLIANCES**		
11			Test and repair the Domestic appliances	i) Tester 500V - 1 No. ii) Cutting plier - 1 No. iii) Screw driver - 1 No. iv) Cutter - 1 No. v) Renches kit - 1 No.	Available
VI			**IDENTIFICATION OF TERMINALS OF DC MOTORS**		
12			Identify the terminals of given DC motors	DC shunt motor, Spanners se, Mutimeter, Megger, Test lamp	Available
VII			**OVERHAULING OF DC MACHINE**		
13			Perform the Overhauling of DC Machine.	3-Ø induction motor, Multimeter, Megge, Test lamp - 1 No.	Available
VIII			**OVERHAULING OF AC MACHINE**		
14			Perform the Overhauling of AC Machine.	DC shunt motor/ DC series motor/ DC compound meter Test lamp,Megger -	Available
IX			**PRACTICE ON MOTOR WINDING**		
15			Practice on Motor winding.	AC motor/ DC motor Spanner set, Multimeter, Cuttingplier, Cutter	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**C PROGRAMMING BASICS**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
1	EE-308	C LANGUAGE LAB	Editing, compiling and executing simple programs (using printf and scanf functions).	Personal Computers, Turbo C	Available
2			Exercises on operators in C.	Personal Computers, Turbo C	Available
II			**DECISION AND LOOP CONTROL STATEMENTS**		
3			Exercises on Selective Structures (if, if – else, else if statements).	Personal Computers, Turbo C	Available
4			Exercises on Selective Structures (switch statements and conditional operator).	Personal Computers, Turbo C	Available
5			Exercises on Repetitive Structures (while, do – while and for statements).	Personal Computers, Turbo C	Available
III			**EXERCISES ON FUNCTIONS**		
6			Exercises on functions to demonstrate prototyping, parameter passing, function returning values.	Personal Computers, Turbo C	Available
7			Exercises on recursion.	Personal Computers, Turbo C	Available
IV			**ARRAY, STRINGS AND POINTERS IN C**		
8			Exercises on one dimensional arrays.	Personal Computers, Turbo C	Available
9			Exercises on two dimensional arrays.	Personal Computers, Turbo C	Available
10			Exercises on arrays and functions	Personal Computers, Turbo C	Available
11			Exercises on Strings handling functions comparison, copying and concatenation.	Personal Computers, Turbo C	Available
12			Exercises to demonstrate use of Pointers, pointers as function arguments, functions returning pointers	Personal Computers, Turbo C	Available
13			Exercises on arrays and pointers.	Personal Computers, Turbo C	Available
V			**STRUCTURES, UNIONS & PREPROCESSOR DIRECTIVES**		
14			Exercise on structures	Personal Computers, Turbo C	Available
15			Exercises on unions and C preprocessor Directives.	Personal Computers, Turbo C	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Availa-ble or Not
I			**CHARACTERISTICS OF ELECTRONIC DEVICES**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
1			Draw the forward & Reverse characteristics of Silicon diode	RPS, IN4007 Diode, Bread Board, Ammeters, Voltmeters	Available
2			Draw the forward & Reverse characteristics of Zener diode and find the Breakdown voltage	RPS, Zener Diode, Bread Board, Ammeters, Voltmeters, Resistors	Available
3			Draw the input and output characteristics of NPN Transistor a) In CB configuration and b) In CE configuration	Transistor Trainer Board	Available
4		ELECTRO NICS ENGINEE RING LAB-1	Draw the input and output characteristics of JFET and determine Pinchoff voltage and Transconductance	Transistor Trainer Board	Available
II	EE-309		**CIRCUITS**		
5			Implementing Half wave Rectifier with and without filter	Rectifier Trainer Board	Available
6			Implementing Full wave Rectifier with and without filter	Rectifier Trainer Board	Available
7			Implementing Bridge Rectifier with and without filter	Rectifier Trainer Board	Available
8			Build a Regulated Power supply and draw the Regulation characteristics i) using Zener diode ii) using 3 terminal +ve Regulator IC	RPS Board, Bread board, IC7805, RPS, 100mF, 10mF, 100nF, Multimeter, Resistors	Available
9			Implement a -ve 3 terminal Regulator IC and draw the Regulation characteristics	RPS Board, Bread board, IC7905, RPS, 100mF, 10mF, 100nF, Multimeter, Resistors	Available
10			Show that a FET can be used a constant current source with appropriate Bias	BFW11 -1, Single channel RPS, (0-20mA), LED, 1KPot, bread board	**Available**

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa- ble or Not
I			**PERFORMANCE OF SINGLE PHASE TRANSFORMERS**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
1			Conduct load test on 1-phase Transformer and calculate efficiency and regulation	i) 1-φ Transformer 110/230V - 1 No. ii) 1-φ Auto Transformer (0-270V) - 1 No. iii) Voltmeter (MI) - (0-150V) - 1 No. iv) Voltmeter (MI) - (0-300V) - 1 No. v) Ammeters (MI) - (0-10A) - 2 Nos. vi) Wattmeter (UPF) - 150/300V, 10A -1No vii) Resistive load box 300V, 15A (3KW) - 1No.	Available
2	EE-407	A.C. MACHINES LAB -1	Conduct the following two tests on 1-phase Transformer i) O.C. test ii) S.C. tests and from the result a) Draw the equivalent circuit. b) Calculate efficiency at various loads and p.f.s c) find the load at which maximum efficiency occurs. d) Calculate All-day efficiency for the given load cycle of 24 hours.	a) For O.C Test: i) Ammeter (MI) (0-1A) - 1 No. ii) Voltmeter (MI) (0-150V) - 1 No. iii) Wattmeter (LPF) 1/2A, 150/300V - 1 No iv) Transformer 110V/230V - 1 No. For S.C Test v) Voltmeter (MI) (0-150V) - 1 No. vi) Ammeter (MI) (0-10A) - 1 No. vii) Wattmeter (UPF) - 300V, 10A -1No. For both Tests: 1-φ Auto Transformer (0-270V) - 1 No.	Available
II			**SUMPNER'S TEST AND SCOTT CONNECTION**		
3			Obtain the efficiency and regulation of two similar 1-phase transformers by conducting sumpner's test.	i) 1-φ Auto Transformers (0-270V)- 2 Nos. ii) Voltmeter (MI) - (0-150V) - 1 No. iii) Voltmeter (MI) - (0-300V) - 2 No. iv) Ammeters (MI) - (0-10A) - 1 No. v) Ammeter (MI) - (0-1/2A) - 1 No. vi) Wattmeter (LPF), 1/2A, 150/300V- 1 No. vii) Wattmeter (UPF) - 300V, 10A - 1No viii) 1-φ Transformers 110V/230V - 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
4	EE-407	A.C. MACHINES LAB -1	Conduct scott connection (T-connection) on transformers	i) Main Transformer with tappings 1:1 ii) Teaset Transformer with tappings 1:1 iii) Voltmeters (MI) (0-300V) - 2 Nos. Iv) Voltmeters (MI) (0-600V) - 1 No. v) Ammeters (MI) (0-10A) - 4 Nos. vi) Ammeters (MI) (0-5A) - 1 No. vii) 3-Ø Auto Transformer (0-500V) - 1 No. viii) 1-Ø Resistive load boxes 3KW, 230V, 15A - 2 Nos.	Available
III			**PARALLEL OPERATION OF TRANSFORMERS AND OIL TESTING KIT**		
5			Connect two identical 1-ph transformers in parallel and observe the load sharing	i) 1-Ø Auto Transformers (0-270V)- 2 Nos. ii) Voltmeter (MI) - (0-150V/300V) - 2 Nos. iii) Ammeters (MI) - (0-10A) - 3 Nos. iv) 1-Ø Resistive load boxes 3KW, 230V, 15A - 2 Nos. v) 1-Ø Transformers 110V/230V - 2 Nos.	Available
IV			**PERFORMANCE OF OIL ALTERNATORS**		
6			Conduct (direct) load test on Alternator and obtain voltage regulation.	Voltmeter (MI) (0-600V) - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No. Motor - Alternator (M-A set) - 1 No. Tachometer (digital) (0-10000 rpm) - 1No.	Available
7			Obtain the regulation of Alternator by using synchronous impedance method.	Voltmeter (MI) (0-600V - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No. Motor - Alternator (M-A set) - 1 No. Tachometer (digital) (0-10000 rpm) - 1No.	Available
8			Synchronise the given Alternator with supply mains by using bright lamp method.	Motor - Alternator (M-A set) - 1 No. Voltmeter (MI) (0-600V) - 1 No. Ammeter (MI) (0-10A/20A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostats (800W/1.2A), (290W/1.8A)- 1No Incondesecent lamps (60W) - 3 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
1			Listening I	Projector	Available
2			Listening II	Projector	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
3	EE-408	COMMUNICATION SKILLS LAB	Introducing oneself	Projector and Pulblic Address system	Available
4			Describing objects	Projector and Pulblic Address system	Available
5			Describing events	Pulblic Address system	Available
6			Reporting past incidents	Pulblic Address system	Available
7			Speaking from observation / reading	Projector and Pulblic Address system	Available
8			JAM	Pulblic Address system	Available
9			Group discussion	Projector	Available
10			Mock interviews	Projector	Available
11			Making presentations	Projector and Desktop computer	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**AMPLIFIERS AND OSCILLATORS**		

	Subject code	Name	#	Name of the Experiment	Name of the equipment/ apparatus Required	Available or Not
1	EE-409	ELECTRONICS ENGINEERING LAB-II		Plot the Frequency response characteristics of an RC coupled Amplifier, Calculate the Gain, f1, f2 and Bandwidth from the response	Transistor Trainer Board, Function Generator, RPS, AC milli voltmeter	Available
2				Observe the output of Colpitt's oscillator and measure frequency by varying components in the tank circuit	Colpitt's oscillator board, CRO, RPS	Available
3				Observe the output of Hartley oscillator and measure frequency by varying components in the tank circuit	Hartley oscillator board, CRO, RPS, CRO	Available
4				Observe the output of Crystal oscillator and measure frequency	Crystal oscillator board, CRO	Available
II				**PHOTO ELECTRIC DEVICES**		
5				Plot the characteristics of a Photo diode	Photo diode experimental board, Voltmeter (0-1V), Ammeter (0-500μA)	Available
6				Plot the characteristics of a Photo transistor	Photo transistor experimental board, (0-25mA), (0-30V)	Available
7				Plot the characteristics of LDR	Bread board, LDR -1, RPS (1 channel), Voltmeter (0-30V), (0-50mA), 4.7KΩ -1	Available
8				Plot the characteristics of LED	RPS -1, LEDs, Bread board, 220Ω resistor, Voltmeter (0-10V), ammater (0-10mA), (0-25mA)	Available
III				**OPERATIONAL AMPLIFIER CIRCUITS**		
9				Familiarize with Operational amplifier 741 and Quad Opamp LM324	Data sheets of IC 741 and LM 324	Available
#				Implement and test 741 OpAmp as Inverting Amplifier	Op-Amp trainer board, Dual Trace CRO	Available
#				Implement and test 741 OpAmp as Non-Inverting Amplifier	Op-Amp trainer board, Function generator, Dual Trace CRO	Available
#				Implement and test 741 OpAmp as Voltage Follower	Op-Amp trainer board, Dual Channel RPS, (0-30V) Voltmeter	Available
#				Implement and test 741 OpAmp as Summer	Op-Amp trainer board, Dual Channel RPS, (0-10V) Voltmeter	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
#			Implement and test 741 OpAmp as Subtractor	Op-Amp trainer board, Dual Channel RPS, (0-10V) Voltmeter	Available

#	EE-409	ELECTRONICS ENGINEERING LAB-II	Implement and test 741 OpAmp as Scale changer	Op-Amp trainer board, Dual Channel RPS, Multimeter	Available
#			Implement and test 741 OpAmp as Integrator	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
#			Implement and test 741 OpAmp as Differentiator	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
#			Implement and test Opamp Schmitt Trigger and draw characteristics	Op-Amp trainer board, Dual Channel RPS, Multimeter, A.F.O., CRO	Available
IV			**555 IC**		
#			Implement Monostable Multivibrator using 555 IC and observe waveforms	555 Experimental Board, Function Generator, Single channel RPS, Dual Trace CRO, multimeter,	Available
#			Implement Astable Multivibrator using 555 IC and observe waveforms	555 Experimental Board, Function Generator, Single channel RPS, Dual Trace CRO, multimeter,	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**TESTS ON 1-PHASE AND 3-PHASE AC MOTORS**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
1	EE-506	A.C. MACHINES LAB - II	Conduct brake test on 3-phase squirrel cage induction motor.	3-ϕ squirrel cage induction motor 440V,10A,3HP -1 DOL Starter - 1 No. 3-ϕ Wattmeter (UPF) 600V, 10A - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer - 1 No.	Available
2			Conduct Brake test on 3-phase slip ring induction motor.	3-ϕ Auto Transformer (600V, 10A) - 1 No. 3-ϕ Wattmeter (UPF) 600V, 10A - 1 No. 3-ϕ Slip ring Indusction motor & Rotor Resistance box - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer - 1 No.	Available
3			Perform Load test on Single phase split type induction motor.	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Split phase induction motor - 1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer (Digital) (0-10000rpm) - 1 No.	Available
4			Perform Load test on single phase capacitor type induction motor	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Capacitor type induction motor -1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos. Tachometer (Digital) (0-10000rpm) - 1 No.	Available
5			Perform Load test on a single phase Universal motor	1-ϕ Auto Transformer (0-270V) - 1 No. 1-ϕ Wattmeter (UPF), 300V, 10A - 1 No. 1-ϕ Universal motor -1 No. Voltmeter (MI) - (0-300V) - 1 No. Ammeters (MI) - (0-10A) - 2 Nos.	Available

S. No.	Subject code of the Practical Subject	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
II			**DRAWING CIRCLE DIAGRAM OF AC MOTORS**		

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Required	Available or Not
6	EE-506	A.C. MACHINES LAB - II	Conduct suitable tests and draw circle diagram of squirrel cage induction motor.	3-φ Auto Transformer (500V, 10A) - 1 No. 3-φ Wattmeter (UPF) 600V, 10A - 1 No. 3-φ Squirrel cage Indusction motor - 1No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No.	Available
7			Conduct suitable tests and draw circle diagram of slip ring induction motor	3-φ Auto Transformer (500V, 10A) - 1 No. 3-φ Wattmeter (UPF) 600V, 10A - 1 No. 3-φ Slip ring Indusction motor - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No.	Available
8			Conduct load test on synchronous motor and draw V and inverted V curves.	3-φ Auto Transformer (500V, 10A) - 1 No. 3-φ Wattmeter (UPF) 600V, 10A - 1 No. Voltmeter (MI) - (0-600V) - 1 No. Ammeters (MI) - (0-10A) - 1 No. Ammeter (MC) (0-1/2A) - 1 No. Rheostat (800Ω/1.2A) - 1 No. Synchronous Motor - 1 No.	Available
III			**IDENTIFY AND RECTIFY FAULTS IN AC MOTORS AND STARTERS**		
9			Identify and rectify faults in AC motors.	Faulty motor test lamp	Available
10			Identify and rectify faults in AC starters.	AC starter	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**CHARACTERISTICS OF DIFFERENT POWER ELECTRONIC DEVICES**		
1			Plot the Characteristics of SCR	SCR, GTP, IGBT and Connecting wires	Available

				Name of the equipment/ apparatus	
2			Plot the Characteristics of IGBT, GTO, DIAC, TRIAC.	SCR, GTP, IGBT and Connecting wires	Available
II			**STUDY THE WORKING OF DIFFERENT POWER ELECTRONIC CIRCUITS**		
3			Study of the working of single phase half wave converter	Single Phase Half wave Converter Board	Available
4			Study of the working of single phase full wave converter	Single Phase Full wave Converter Board	Available
III			**SPEED CONTROL OF THE DC MOTOR USING THE POWER**		
5			Speed Control of DC motor using single phase full converter	Chopper circuit	Available
6			Speed Control of DC motor using Chopper	Chopper circuit	Available
IV		POWER ELECTRO NICS AND PLC LAB	**SPEED CONTROL OF THE SINGLE PHASE MOTOR USING SCR**		
7	EE-507		Speed Control of 1-phase AC motor using TRIAC	Speed control of 1-Phase AC motor using TRIAC Board	Available
V			**EXECUTION OF THE DIFFERENT LADDER DIAGRAMS**		
8			Demonstrate PLC and Ladder diagram-Preparation , downloading and running	PLC Trainer, PLC Software	Available
9			Execute Ladder diagrams for different Logical Gates	PLC Trainer, PLC Software	Available
10			Execute Ladder diagrams using timers & counters	PLC Trainer, PLC Software	Available
VI			**EXECUTION OF THE LADDER DIAGRAMS WITH MODEL**		
10			Execute Ladder diagrams with model applications (i) DOL starter (ii)Star-Delta starter	PLC Trainer, PLC Software	Available
11			Execute Ladder diagrams with model applications (i) Stair case lighting .(ii) Traffic light controller	PLC Trainer, PLC Software	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Availa-ble or Not
1			**UNIT I: All about Making Presentations**		

				Name of the equipment/ apparatus	
2	EE-508	PRESENTATION SKILLS	* The importance of presentations * Features of a good presentation * Opening a presentation * Building up the Body of the presentation * Use of linkers/ cohesive devices * Acceptable and good body language	Projector	Available
2			**Unit 2: Getting Started with Presentations**		
			Describing an Apparatus, templates and group presentations	Projector	Available
3			**Unit 3: Presentational Aids**	Desktop, flash cards, charts	Available
4			**Unit 4: Technical Presentation**		
			Use of Simple past tense in presenting experiments	Public Address System	Available
5			**Unit 5: Table/ grid showing the title of the topic from**		
			Presentation from Technical Subject	Desktop and Public Address System	Available
6			**Unit 6: Table/ grid showing the title of the topic from**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
7			**Unit 7: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
8			**Unit 8: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
9			**Unit 9: Presentations on Laboratory Experiments**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
10			**Unit 10: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
11			**Unit 11: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
12			**Unit 12: Individual Presentations on Technical Subjects**		
			Preparing templates from Technical subjects	Desktop and Public Address System	Available
13			**Unit 13: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
14			**Unit 14: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available
15			**Unit 15: Individual Presentations on Technical Subjects**		
			Presentation from Technical subjects	Desktop and Public Address System	Available

S. No.	Subject code of the Practical	Name of the Practical Subject	Name of the Experiment	Name of the equipment/ apparatus	
				Required	Available or Not
I			**LOGIC GATES**		
1			Verify the truth tables of Basic gates and Universal gates	Logic Trainer kit	Available

2			Show NAND gate and NOR gate as Universal gates	Logic Trainer kit	Available
II			**COMBINATIONAL LOGIC CIRCUITS**		
3			Realize a given Boolean function and obtain its truth table	Logic Trainer kit	Available
4			Construct Half Adder and Full Adder and verify the truth tables	Logic Trainer kit	Available
5			Verify the functin of 74138 decoder IC	Binary to Decimal decoder	Available
6			Verify the working of Multiplexer (Using IC 74153)	Multiplexer board	Available
7			Verify the functional table of 4-bit magnitude Comparator 7485 IC	4-bit magnitude comparator board	Available
III			**SEQUENTIAL LOGIC CIRCUITS**		
8			Construct and verify the truth tables of NAND & NOR latches	Logic Trainer kit	Available
9	EE-509	DIGITAL ELECTRONICS AND MICROCONTROLLERS LAB	Construct Clocked RS FF using NAND gates and verify its truth table	Fli-Flop board	Available
10			Verify the truth table of JK FF using 7476 IC	Fli-Flop board	Available
11			Construct D and T FFs using 7476 and verify the truth tables	Fli-Flop board	Available
IV			**MICROCONTROLLERS**		
12			Familiarization of 8051 Microcontroller Kit	8051 Microcontroller Kit	Available
13			Familiarization of 8051 Simulator EDSIM 51 (or similar)	Embedded simulator software, Personal Computer	Available
14			Write small ALP to demonstrate different register addressing techniques	8051 Microcontroller kit, ASCII Key Board	Available
15			Write an ALP to demonstrate Addition, Subtraction, Division and Multiplication of 8 bit numbers using Immediate data access	8051 Microcontroller kit, ASCII Key Board	Available
16			Write an ALP to add and subtract 16 bit numbers	8051 Microcontroller kit, ASCII Key Board	Available
17			Write an ALP to Square and Cube program	8051 Microcontroller kit, ASCII Key Board	Available
18			Write an ALP find LCM of given numbers	8051 Microcontroller kit, ASCII Key Board	Available
19			Write an ALP to find HCF of given numbers	8051 Microcontroller kit, ASCII Key Board	Available