

| Sl. No | Subject Code | Subject Name | Hours per Week | | | Total Hrs | Total Credits |
|--------|--------------|--------------------|----------------|---|---|-----------|---------------|
| | | | L | T | P | | |
| 1 | EN2ES04 | WORKSHOP-II | 0 | 0 | 2 | 2 | 2 |

Electrical Workshop

General safety & precautions taken in Electrical Workshop, Electric shock, methods of shock treatment, Fuse and safety measure, Earthing as safety measure — I.E. Rule, Different types of Earthing, Different types of wire-gauge & strands, applications Different tools used Electrical wiring installations Applications, General wiring accessories & their uses. Types of wiring & their comparison.

Practices

- 1 Study of Single Phase service connection from Pole to house (Equipments required : Service Pole, Energy Meter, Service Fuse, Distribution Board, Earth Wire) & Complete connection of Consumer Installation.
- 2 To make Straight & 'T' Joint of 7/20 PVC wire.
- 3 Wiring practice in Casing / Conduit Wiring (PVC Conduit) (one light, one fan ,one plug point & One lamp controlled by Two- Way switches including connection of Single phase Energy Meter & Main Switch).
- 4 Wiring of Calling-Bell (on T.W. batten/ PVC conduit / PVC casing).
- 5 Connection of Twin-Fluorescent Tube (AC/DC) .
- 6 Practice of Soldering & De soldering Techniques).
- 7 Identification of Basic Electronics components using Multimeter.

Machine Workshop

Safety Precautions, Demonstration of drilling machine, Lathe machine, Shaping, Slotting machine. Demonstration of drill bits, Single Point & Multi point Cutting tools

Practice on Machine Shop

- 1 Use of Drill Machine and drilling practice
- 2 Preparation of one job in Lathe machine involving the operation like Plane Turning, Step Turning, Grooving, Chamfering, Knurling etc.

Electronics Workshop

Common Assembly tools. Identification of Basic Components; both active & passive Use of Multimeter (both Analog and digital). Rules for soldering & de-soldering. Rules of component mounting and harnessing. Artwork Materials in PCB design, General artwork rules, taping guidelines.

Practices

1. Identification of basic components: Passive- resistors, Capacitors, Inductors/Coils, Transformers, relays, switches, connectors; Active- Batteries/cells, diode, transistors (BJT, FET) SCR, diac, Triac, LED, LCD, Photo-diode, Photo-transistors.

Computer Workshop

Different types of Key Boards, Different types of Mouse, Different types of Scanners, Different types of Modems, Different types of Printers, Different types of CD Writers, Speakers, CD Read/Write Drive, Different types of Microphones, LCD Projectors, Pen Drive, DVD Drives, Different types of Monitors, Different makes of Hard Disks, Different types of Net Work Interface

Practices

- 1 Connection of Mouse in different ports.
- 2 Connection of Key Boards in different ports.
- 3 Connection of Monitors.
- 4 Connection of Printers.
- 5 Different Switch settings of Printers.
- 6 Printer's self test.
- 7 Jumper setting of Hard Disks.
- 8 Attaching FDD, HDD and CD Drives.
- 9 Attaching Pen Drives and DVDs.
- 10 Attaching Scanner.

Reference Books:

1. Workshop Technology Gupta & Malani
2. Workshop Technology Kumar & Mittal
3. Computer Fundamental V.K. Jain, Standard Pub.
4. First Course in Computer Science Sanjeev Saxena, Vikas Publishing House
5. Electrical Workshop M.L. Gupta
6. Domestic Devices & Appliances K.B. Bhatia
7. Electrical Workshop S.L. Uppal
8. Electrical Component & Shop Practice K.R. Nahar