

## 2: ELECTRICAL TECHNOLOGY (FA, FB, FC)

Scheme of Examination Std.

### Std. XI

Paper	Title of the Paper	Theory		Practical		Term work	Project work	I.V.*	Total Marks
		Marks	Time (Hrs)	Marks	Time (Hrs)				
1	Electrical Wiring	80	3	80	3	20	10	10	200

\* IV = Industrial Visits    \*\* OJT = On Job Training

### Paper I: Electrical Wiring (FA)

#### Objectives

To enable the students to

- 1) Acquire knowledge and skills about safety precautions while working.
- 2) Identify and to use different tools used in wiring.
- 3) All units with properties and usage of different materials. (Conducting Insulating, Magnetic, Instructural, Wiring etc)
- 4) Understand the general concept of Generation of electrical power.
- 5) Understand the general concept of different wires.
- 6) Know about electrical symbols used in electrical parts.
- 7) Know about electrical house wiring.

#### Theory

Sr. No.	Unit	Sub-Unit	No. of Periods
1.	Safety Precautions and shock treatment	Shop Discipline	10
		Electrical shocks and procedure for separating person from contact with live wire	
		First Aid different methods of artificial respiration	
		Electric fire	
		Fire Extinguishers	
2.	Electrical common tools	Electrical tools	10
		Pliers, Combination, side cutting, round nose, long nose,	
		Screw drivers, connectors, electrical knife	
		Neon tester, test lamp, series test lamp, pincer, line dori, plumb bob, steel rule, Tenor saw, Hacksaw, Hammer	
		Symbols uses in Electrical technology	
		Reading of electrical drawing	

3.	Current Electricity	Introduction, Generation of electricity, Types of electricity, Effect of electricity and appliances, Different energy sources, EMF, potential difference, current, voltage, resistance, conductance, power, energy, specific resistance, energy billing for a month, direct current and alternating current	10
4.	DC Circuits	Ohm's law, Series CKT, Parallel ckt, series and parallel combination, types of electrical ckt	10
5.	AC circuits	Introduction importance, star delta, capacitor, Fundamentals of AC circuits, Introduction of different ckt, power factor, classification of materials, cables, wires, and insulation low, medium, high voltage	22
6.	Fuse and soldering	Introduction, common fusing material, miniature circuit breaker, (MCB), molded case circuit breakers (MCCB), earth leakage ckt breaker (ELCB), Soldering equipments, precautions	10
7.	Common electrical wiring accessories	Wiring accessories, lamp holders, other accessories, distribution boards, types of wirings, types of wires	12
8.	Domestic wiring (house wiring)	Introduction and necessity of wiring, selection of wiring, types of wiring, I.E. rule of domestic wiring, testing and installation of domestic wiring. Earthing formats for electrical connections	24
9.	Illumination	Introduction, lighting and fixtures	12
<b>Total</b>			<b>120</b>