



## Unit I

### Chapter 1 : Wiring Components, Tools & Safety Devices 1-1 to 1-56

**Syllabus :** IE rules of safety.

Safety Tools used in wiring : Pliers, nose pliers, cutter cum insulation remover, screw driver, tester, test lamp, crimping tool, continuity tester, wire gauge, knife.

Accessories : safety hand gloves, safety boots, safety goggles, safety rubber mats.

Components with specifications used in wiring systems : different types of iron clad switches, DBs, switches, plugs, sockets, MCBs, RCBs, ELCBs, holders, wires, cables.

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## Unit II

### Chapter 2 : Conductors and Electromagnetic Materials 2-1 to 2-26

**Syllabus :** Properties of conducting materials : Electrical, Mechanical and thermal properties of conducting materials.

Conducting materials and their applications : Copper, aluminium, tungsten, brass, bronze, mercury, silver, lead, nickel and tin.

Types of magnetic materials : Ferromagnetic, paramagnetic and diamagnetic materials.

Properties and applications of magnetic materials : Magnetization curve, hysteresis, hysteresis loss, magnetostriction materials, C.R.G.O. silicon Steel, H.R.G.O. silicon steel, typical hysteresis loops for different ferromagnetic materials (hard steel, wrought iron and alloyed steel), Loss of magnetism.



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