Fundamentals of Electrical Engineering

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Unit-I: Fundamentals of Electricity

Introduction to circuit elements (R, L & C)- Electric Current - Electric Potential difference -Ohm's law - Factors upon which Resistance depends- Specific Resistance - Effect of Temperature on Resistance - Temperature coefficient of Resistance - Series and Parallel connection of Resistances, Inductances & Capacitances - Kirchhoff's laws (KCL & KVL)- Basic types of Sources (Independent Sources).

Unit-II: Protective Devices

Types of Fuses, Characteristics, Materials Used, Fuse Rating - Types of Switches, Materials used, Symbols - Types of Circuit breakers - Types of Resistors, Rating - Colour Coding of R, L, C.

Unit-III: Earthing

Need and Necessity of Earthing - Types of Earthing - Simple Earthing Circuits for domestic appliances - Procedure of Earthing - Earthing of Generators - Calculation of Earth resistance - Perfect earthing - Importance of neutral and its grounding.

Electrical Safety

Electrical Shock - Types of First aids - Safety Norms - Human Body response for various Electric Voltages.

Unit-IV: Measuring Instruments

Types of Measuring Instruments - Principle of operation - Measurement of Current, Voltage, Power Energy, Resistance, Inductance & Capacitance - Earth Resistance - Principle of Operation of CRO.

Unit-I: Fundamentals of Electricity