

ELECTRICIAN

THEORY – II

Principle – Parts and functions of DC Generator – EMF equation – Types and characteristics of DC Generator – Principles parts and different types of DC motor – Characteristics Torque back emf of DC motor.

AC fundamental – Generation of Alternating Voltage and current – Single Phase and Polyphase system, Power and Power factor. AC 3 – Phase circuit calculation Principles of polyphase induction motor – Description and internal construction of Direct on line Starter – Star line Delta Starter.

Principles – construction and types of Transformer – General idea leading and regulation – losses and efficiency Transformer – Temperature rise cooling method – Principle and construction of Alternators.

Different types of switches and switch gears etc – House wiring types and earthing electric instruments – Measuring instruments – Lamps use of choke and starter.

Electronics : Cathode and anode Thermionic emission – Diode and Transistor.

Three phase induction machine – construction – Types – Principle of operation – Equivalent circuit – Torque and Power output – Testing – induction generator – Synchronous Induction motor.

Alternators – Basic Principle – Equation of Induced EMF – Voltage regulation – parallel operation of Alternators.

PRACTICAL :

Safety precaution – First aid practice – practice in using common tools in electrical field – Cutting pliers – Screw drivers etc – Layout marking or wiring boards – Lamp controlled by switches in different way – practices in fixing and connecting accessories – Switch sockets etc – connection of shunt and compound Generator – Testing of DC motor – Measuring the speed using tachometer Estimation of materials with full specifications to panel board and House wiring.

House wiring System : Different parts of Iron box, fans etc – wiring in street lights – Preparation of clamps for fixing, ceiling fan etc – emergency lighting – Wiring for telephone – Wiring a 3 Phase squirrel induction motor – T.P.T.C. Switch correct setting of over-load adjustment in motor – Other domestic appliances wiring.