

AMPT12 ELECTRICAL MACHINES AND ITS UTILISATION IN PRINTING

UNIT-1 D.C. GENERATOR

Construction; types, series, shunt, compound E.M.F. equation, Building up of E.M.F. in shunt generator, Significance of residual magnetism, Generation characteristics.

UNIT-2 D.C. MOTOR

Types, Principles of operation, Significance of back e.m.f., Torque equation, Torque speed characteristics of series, shunt and compound motors, speed control of d.c. motors by armature resistance, Flux control and thyristor control method applications.

UNIT-3 SINGLE PHASE MOTORS

Types, single phase induction motor Principles of operation of induction motor, Repulsion motor, A.C. series motor, Application.

UNIT-4 MEASUREMENT OF POWER

Three phase circuit by three wattmeter method, Two Wattmeters method, Single Wattmeter method.

UNIT-5 THREE PHASE INDUCTION MOTOR

Basic principle of operation, cause of rotating rotor, Slip frequency of rotor current, Relation between torque and rotor power factor, starting Torque for squirrel cage Induction motor, Starting torque for slip ring induction motor, Condition for maximum torque, Effect of rotor resistance on torque, torque-slip characteristics, Different type of starters. Applications of 3 phase induction motor, Circle diagram.

UNIT-6 ELECTROLYTIC PROCESSES

Introduction, Electrolyte, ionisation, Definition of various terms used in electrolysis, Faradays' laws of electrolysis, Extraction of metals, Refining of metals, electrodeposition, power supply for electrolytic processes.

UNIT-7 ILLUMINATION

Introduction, Nature of light, Units, Luminous efficiency glare, Production of light : Light production by excitation, Ionisation, Incandescence.

UNIT-8 DISTRIBUTION AND CONTROL OF LIGHT

Reflection, Refraction, Diffusion, Applications of directional controlled lighting, Production of coloured light, subtractive coloured light, Production with the discharge lamps, coloured reflectors,

UNIT-9 LIGHTING CALCULATIONS

Plane angle, solid angle, solid angle in terms of plane angle.

UNIT-10 ELECTRIC WELDING

Principle, Resistance welding, Arc welding, Automatic hydrogen, A.C. & D.C. welding, welding transformer.

UNIT-10 ELECTRIC-HEATING

Introduction, Resistance heating, Direct resistance.

UNIT-11 CONSIDERATION AND SELECTION OF ELECTRIC MOTOR FOR DIFFERENT INDUSTRIAL DRIVES

Reference Book:

1. Elements of Electrical Engg. By B.L. Theraja, Vol. I, II

