

Mechanical Engineering

DIPLOMA STANDARD

INDUSTRIAL MANAGEMENT:-

X and Y theories of Management, Contributions of Henry Fayal and F.W. Taylor for Management - job evaluation by Ranking method and factor comparison method - motivating techniques - fixing selling price of a product - break even analysis for make or buy decision - sinking fund method of calculating depreciation - ABC analysis - deriving economic order quantity.

INDUSTRIAL ENGINEERING:-

Factors influencing plant location - principles of layout - techniques used to improve layout - primary and secondary causes of an accident - personal protective devices - method study procedure - flow diagram, string diagram and two handed process chart - principles of motion economy-procedure for conducting stopwatch time study, production study and ratio delay study - objectives of preplanning, routing, scheduling, despatching and controlling - difference between inspection and quality control types of plant maintenance.

PRODUCTION TECHNOLOGY:-

Foundry - patterns - special casting techniques - welding - hot and cold working - sawing - powder, metallurgy - plastics - rubber - ceramics - refractories - lathe work - planer - shaper - slotter - drilling machine - milling machines - grinding machines - broaching - boring and jig boring - semiautomatic and automatic lathes - Gears manufacturing practice - Heat treatment and metal finishing - press work - numerically controlled machines.

ELECTRICAL AND ELECTRONICS ENGINEERING:-

Units, D.C. Circuits, batteries - electro magnetism - single phase and three phase A.C. circuits - Induction motors electronics.

MECHANICS OF MATERIALS:-

Mechanical properties of metals - simple stresses and strains - geometrical properties of sections - thin cylinders bending moment and shear force - theory of simple bending - torsion and springs - transmission of motion.

HEAT POWER ENGINEERING:-

Working principle and comparison of otto and diesel cycles - construction and working of two stroke and four stroke engines - Heat balance test on I.C. engine - working principle of single and multistage compressors - Comparison of reciprocating and rotary compressors - classification of steam boilers - construction and working of steam turbines - working principle of steam power plant - Main elements of a nuclear power plant - Vapour compression cycle - factors affecting human comfort - working principle of a window air conditioner.

COMPUTER APPLICATIONS:-

Working principle and constructional details of computer - classification of computer - Input/Output devices - flow charting.

FLUID MECHANICS AND MACHINERY:-

Working of differential manometer - use of venturimeter and orifice classification of mouth pieces meter - working of pelton wheel, francis turbine and kaplan turbine - construction and working principle of reciprocating pump - quick return mechanism of shaping machine - table movement in a milling machine.