

TRADE MECHANICAL
Syllabus of Term - 2
Sub. Fitting & Welding (116)

THEORY

Paper - I

Oxy - Acetylene Welding

Principles of Gas Welding, Gas Welding equipment, Low Pressure & High Pressure Gas welding, Flame - Parts of Flame, Types of Flames & uses, Gas cutting, Fluxes - composition & Application.

Electric Arc Welding

Introduction, Principle of Arc Welding, Arc Welding equipment, Types of Welding joints, Edge preparation, Types of electrodes & their uses, Flux properties & uses, Arc Welding Methods using AC & DC supply.

Special Welding Techniques

Electric Resistance Welding Principle, Description & Working

MIG / MAG Welding

Simple introduction



Lubricants

Necessity of Lubrication, Types of Lubricants - Solid, Semi-Solid, Liquid Lubricants, Properties of Good Lubricant, Designation of Lubricating oils according to BIS, Application of Different grades of Lubricating oils with examples, coolants & cutting fluids.

Transmission of Power

Concept of power transmission, Types of Drives - Belt & Gear Drives, Types of Belt Drives, Classification of Gear trains, Simple & compound Gear Trains, Velocity ratio, Calculation of Driver & Driven speeds, Gear ratio, Angular & Peripheral speed, Power.

Engine -

Constructional features of I.C. Engines & familiarization with principle parts, Principles of operation & salient features of Four stroke & Two stroke engines, Simple machines - Definition of Terms - Load, Effort, Velocity ratio (V.R.), Mechanical Advantage (M.A.) Mechanical efficiency, Types of Levers, Pulleys, Fixed & movable Pulleys, Simple machines - Simple wheel & Axle, simple screw jack, Worm & Worm Wheel, single purchase Crab, Industrial Applications of the above machines.

Machine Shop Layout & Maintenance of Machines

Layout of Machine shop, Maintenance of Different types of machines, General instructions for Machine Shops, Purpose & importance of Maintenance, Reconditioning & overhauling of machines.

TRADE - MECHANICAL

Syllabus of Term - 2

Sub. Mechanical Drawing - II (118)

Theory

SCREW THREAD

Introduction, Terms of screw Thread, Main Parts of screw thread (only Definition with fig-), Major Diameter, Minor diameter, Pitch Diameter, Pitch Line, Crest, Root, Flank or side, Thread angle, Pitch, Lead.

ASSEMBLY DRAWING

Introduction, Details of Drawing - Assembly Drawing, Making Assembly drawing, Main parts of assembly drawing.