

WELDING

THEORY - I

INTRODUCTION :

Gases used for gas welding, production of oxygen & acetylene - Gas Welding equipment production of Acetylene gas - Oxy - Acetylene welding - Flame characteristic (Neutral, Carburising, Oxidising flames), Gas welding techniques (positions of gas welding), Different methods of gas welding (Leftward, rightward and vertical)

SAFETY & PRECAUTIONS :

Name the dangers in welding, remedy and precaution for electric shock, causes for electrode heater get hot, precaution to prevent fire in welding shop, protective with the combustible matches cylinder.

WELDING AND ITS APPLICATIONS :

Welding, Classification of welding, Welding Processes, Gas Welding, Resistance Welding, Industrial Application of Welding.

WELDING METALLURGY :

Effect of Heat on weld and Base Metal stress Relieving , Annealing Hardening, Tempering Tinning.

GAS AND EQUIPMENT'S USED BY WELDERS :

Acetylene, Calcium Carbide Properties, Oxygen Hydrogen, Equipment's for low and Medium pressure system, Methods of generating Acetylene, Hydraulic pressure, Flash back, Special care, low pressure Blow pipe, High pressure system, Welding Accessories, Precautions, connection and clamps, Manifolds, Regulations and safety rules for acetylene and oxygen manifolding, pressure Regulations, Advantages of Double or two stage Regulator, Safety rules for regulator, Range of Welding pressures, selection of correct Torch Nozzle, process of Welding, sequences of operations in Welding steel, Comparison between High and Low pressure system, Oxy Acetylene Flame.

GAS WELDING TECHNIQUES :

Left or forehand and Right ward Welding and its Advantage Fluxes on Oxy Acetylene welding, Fluxes used for welding different metals, Gas welding Rods, Joints and their preparations before Welding preparations of joints, Distortion and its control and prevention. Welding of various metals and Alloys, Welding Techniques, Welding of non-ferrous metals, Bronze welding process.

FLAME CUTTING OF METALS :

Oxy Acetylene cutting, Principle of Flame cutting. Techniques of cutting, Templates of magnetic Tracing.

BRAZING AND SOLDERING :

Brazing Process and method of Brazing and Soldering solder, Tipping of Tools. Instruction in safety precautions use of tools making out from Engineering drawing in mm/inch brazing use of chisels use of clamps use of jigs and fixtures hand tools for oxy-acetylene welding torch acetylene generators and oxygen cylinder preparation of surfaces of welding oxy-Acetylene cutting like duty nozzles for welding. Hand tools in electrical different types of filler rods, different types electrodes welding of casting hard facing and aluminium facing free heating and post heating for welding. Welding of objects according drawing.
