


**Syllabus of**  
**Basic Course in Fabrication Techniques**  
**(300 HOURS)**

Sr. No.	Practical Competencies	Underpinning Knowledge (Theory)	Duration in Hours
1.	Use of protective clothing and boots	Introduction of MES scheme	12Hours
2.	Identify tools, equipments and materials used in fitting	Job /employment opportunity, Safety precautions, use of protective clothing and elementary first aid.	16 Hours
3.	Apply good housekeeping practices, proper handling of materials and disposal of waste, follow statutory regulations.	Functions and uses of various tools and equipment.	16 Hours
4.	Carry out basic first aid treatment/notifying accident	Reasons for carrying out good housekeeping practices	18 Hours
5.	Use and store tools and equipments in a safe manner	Care and use of tools, equipment and materials used in fitting Selection and correct use of tools	24 Hours
6.	Measuring tools : Steel rule, inside and outside calipers, vernier caliper, inside and outside micrometer, depth gauge, vernier height gauge,	Criteria for selection of tool for different operation. Proper handling and correct use of hand tools. Types of measuring tools	26 Hours
7.	Bevel protector, radius gauge,	Introduction of marking tools.	12 Hours
8.	Feeler gauge, wire gauge	Application of marking tools. Safety, proper handling and use of marking tools.	12 Hours
9.	Read and interpret simple workshop drawings Mark layout of object on sheet metal as per drawing	Introduction to sheet metal hand tools and machine tools and safety precautions to be observed while using them.	30 Hours
10.	Perform sheet metal operations, Select appropriate sheet metal hand tools and machine tools (Shearing tools, stakes, Hammers, Cutting tools, Grovers)	Types of sheet metal and their applications. Different sizes of sheet available metal commercially, Metal joining method	30 Hours

**Syllabus of**  
**Basic Course in Fabrication Techniques**  
**(150 HOURS)**

Sr. No.	Practical Competencies	Underpinning Knowledge (Theory)	Duration in Hours
1.	Use of protective safety devices on shop floor.	Introduction of MES scheme	8 Hours
2.	Safe working practice to be observed during welding.	Job /employment opportunity, Introduction to welding.	12 Hours
3.	Introduction to safety equipment and their use. Identification of tools and accessories used for MAG/CO2 Arc welding.	Safety precautions and necessity of using protective equipments such as shields, goggles, hand gloves, sleeves, aprons safety shoes etc.	18Hours
4.	Setting up of MAG/CO2 Welding machine and depositing Straight line beads on MS plate by CO2 welding.	Types of welding processes and application. Metals and weldability. Linear measurement metric and inches.	8 Hours
5.	Produce Lap on MS plate in down hand position.	Angular measurement.	8 Hours
6.	Produce Corner joint on MS plate in down hand position.	Marking practice using Steel rule using metric and inches scale, Nomenclature of Fillet and groove welds	18 Hours
7.	Produce Single 'V' butt joint in down hand position.	Welding terms and definitions	18 Hours
8.	Produce "T" joint on MS plate in horizontal position by CO2 welding.	Weld symbol and reading of fabrication drawing	26 Hours
9.	Identification of defects on CO2 welded joints by Visual inspection & correction of defects.	Data and Tables related to CO2 welding, Types of weld defects in CO2 Welding, causes and remedy	16 Hours
10.	Measurement of weld using gauges.	Inspection & testing of weldments	18 Hours

  
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