

Orientation Course For Plumber

1. Familiarization with good working practices

a) Reading simple working drawings and sketches

Plumber has to deal with different types of drawings and sketches related to plumbing, primarily plumber has to deal with lay out plans from which plumber should be able to estimate the work performed as per the situation and space provided for purpose . For this purpose Plumber should be able to prepare the list to material, tools and equipment for carrying out the offered job.

Familiarization with the different technical terms used in the Plumber trade while carrying out the plumbing jobs. This includes drawings like lay out lines on the walls of the building, cutting groves on the walls, making wall holes to facilitate water pipe fittings.

- Fittings of Base water, which includes fitting in the kitchen, bath rooms etc.
- Soil water fittings
- GI water pipe fittings
- Gas pipe fittings, chemical pipe fittings and Various crases pipe fittings.
Laying outlay if Sewerage system by adopting adequate technique.
- Introduction to the various sings and symbols used in plumber trade.
- Introduction to the various notes, instructions while carrying out plumbing as per the drawings.

b Earth Work in excavation: A good plumber should be able to instruct the labour for execution work . He should have been knowledge to judge the compaction of soil strata by use of hand rammers.

Introduction to timbering of trenches.

Knowledge Acquired: The candidate must be able to

- 1 Carry out steps for making for plumbing, excavation and other lines.
- 2 Carry out steps for setting out various foundations
- 3 Understand the general language of drawing including signs and symbols.
- 4 Check the soil strata for compactions.
- 5 To perform various fittings processes which include cutting threading fittings and finishing's.
- 6 To perform, ladling and other necessary plumbing processes.

Knowledge Acquired The candidate should be able to

- 1 Define terms and drawings used in plumbing work.
- 2 List out materials used in plumbing non ferrous metals, brass, copper, Zinc, lead, tin, solder, gun metal and its used in plumbing work.
- 3 List out tools and equipments used in plumbing.
- 4 Carry out leakage tests of pipes, water tanks etc.

2 Introduction to Various tools and equipments and their uses:

In plumbing work, various types of tools and equipments are used. It is important for a plumber to have good knowledge about these tools and equipments. So that he may be able to use these tools and equipments effectively and safely.

Storage of tool equipments.

Various types of tools and equipments used by a plumber are pipe wrench, chair pipe wrench, water pump plier, Gas pliers, combination pliers, pipe vice adjustable wrench, Hand hacksaw, These wheel pipe ratchet, hydraulic pipe bending machine, Screw Dings hammer, Screw Driver, hammer canting tools, Melting pot, level spirit level, measuring tools, plumb bob etc.

2 Care and Maintenance of tools.

Proper care and maintenance of these tools should be taken

They should be properly stored in almirah storage racks.

Handles of tools should be checked for serviceability lose handles may cause injury to the worker.

Knowledge Acquired: The candidate should be able to

- 1 List out the tools and equipment for plumbing work.
- 2 Use of tools and equipment s with correctness.
- 3 Maintenance of tools and equipment.
- 4 Storage of tools and equipment.

Safety precautions.

Safety of human being is of utmost importance - One must observe the standard rules and safety measures to guard oneself and others while on work. Various Safety precautions observed by a plumber while plumbing are.

Self-Safety.

- 1 Never wear loose clothes while working in workshop. Use of over all is recommended for safety.
- 2 Don't wear rings; change tie etc while working before proceeding these must be removed if worn.
- 3 Always wear rope sole shoes while working to avoided slippage of foots.
- 4 Never clean scrape by using hands, brush should be used for the purpose. It should be properly in a scrape box.
- 5 Never handle acids with naked hands, also one should avoid smelling acids.

Tools and Machine Safety..

- 1 Before proceeding on to any job, we must have thorough knowledge about the tool and equipment and machinery, which we are going to use
- 2 Status and serviceability of machinery and equipment must be assessed before proceeding on to job.
- 3 Don't allow steel rule to rub against other tool, it must be hung after use.
- 4 While cutting threads on GI Pipes die should be moved forward and backward again and again and oiling should be done while using dies.
- 5 While making joint on CI pipes, never allow water to fall on hot lead.
- 6 While using ladder the handle of ladder should be held by means of a cloth piece to avoid burning of hands.
- 7 Don't allow file to come in contact with oil or grease.
- 8 The handle of file and hammer should not be loose.
- 9 Avoid hammer on mushroom head chisel.
- 10 While working if the status of tool is found to be incorrect, first rectify it and then use the tool.
- 11 Always select a tool according to the nature of job.
- 12 Before attempting any job first understand the drawing of jobs and then one should proceed on to the job. Also one should have knowledge of material and technique while carrying out the job.
- 13 Proper tools and equipments should be used before proceeding on to the job as given in the drawing.

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COURSE CONTENTS

A. FAMILIRIZATION WITH GOOD WORKING PRACTICE **(20 Hrs)**

OBJECTIVE OF TRAINING

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| 1 | Introduction To Welding trade | 1 |
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| 4 | Arc Welding Machines & Accessories | 8 To 10 |
| 5 | Arc Welding Electrodes (Coding :ISI, AWS, BS) | 11 To 25 |
| 6 | Basic Welding Joints And Positions | 26 TO 27 |
| 7 | Defects In Arc Welding - Its Effects (Definition, Causes & Remedies | 28 To 32 |
| 8 | Weld Symbol & Welding Symbols (Description & Uses) | 33 To 36 |
| 9 | Arc Length And Its Effects | 37 To 38 |
| 10 | Essentials For Proper Welding Procedures | 39 To 40 |
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| 12 | High Pressure Oxy-Acetylene Welding & Cutting Equipments & Accessories | 45 To 49 |
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COURSE CONTENTS

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| <u>Common Tools Used In Welding Shop</u> | <u>Page No.</u> |
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C. SAFETY AND STANDARD NORMS 4 Hrs.

| <u>Safety and Standard Norms</u> | <u>Page No.</u> |
|---|------------------------|
| a) Safety of Machines and Accessories (Arc) b) Safety in Manual Metal Arc Welding c) Safety in Oxy Acetylene Gas Welding d) Safety in Oxy Acetylene Gas Cutting e) Safety rules for Oxygen and Acetylene Gas Cylinder | 59 To 73 |

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| D. General Needs of Overseas Countries | 2Hrs. |
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| E. Human Behavior | 4 Hrs. |
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| F. Procedural Requirements | 2 Hrs. |
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| G. Basic Accountancy & Book Keeping | 8 Hrs. |
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