

1	Name of Syllabus	C. C. In Plumbing (303126)																																										
2	Max .No's of Student	25 Students																																										
3	Duration	6 Months																																										
4	Type	Part Time																																										
5	No's Of Days / Week	6 Days																																										
6	No's Of Hours /Days	4 Hrs																																										
7	Space Required	Workshop = 200 Sq feet Class Room = 200 Sq feet TOTAL = 400 Sq feet																																										
8	Entry Qualification	S.S.C. Appeared																																										
9	Objective Of Syllabus/ introduction	Introduction – the syllabus of PLUMBING has been evolved in such a way that after completion of course of 6 Months , the student would acquire good working skill suited to work as Plumber. Objective:- 1) Develop skills as Plumber 2) Finding water leakage problem & their remedies. 3) Provide adequate knowledge of maintenance. 4) Handling & uses of different types of tools.																																										
10	Employment Opportunity	Self employment/wage employment																																										
11	Teacher's Qualification	1. ITI Certificate holder in the trade with 3 years experience. 2. Diploma in Mech .Engg.																																										
12	Training System	<table><tr><th colspan="4">Training System Per Week</th></tr><tr><td>Theory</td><td>Practical</td><td colspan="2">Total</td></tr><tr><td>6 Hours</td><td>18 Hours</td><td colspan="2">24 Hours</td></tr></table>							Training System Per Week				Theory	Practical	Total		6 Hours	18 Hours	24 Hours																									
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13	Exam. System	<table><tr><th>Sr. No.</th><th>Paper Code</th><th>Name of Subject</th><th>TH/PR</th><th>Hours</th><th>Max. Marks</th><th>Min. Marks</th></tr><tr><td>1</td><td>30312611</td><td>PIPE FITTING</td><td>TH-I</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>2</td><td>30312612</td><td>PLUMBING ARTICLE FITTING</td><td>TH-II</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>3</td><td>30312621</td><td>PIPE FITTING</td><td>PR-I</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td>4</td><td>30312622</td><td>PLUMBING ARTICLE FITTING</td><td>PR -II</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td></td><td></td><td>TOTAL</td><td></td><td></td><td>400</td><td>170</td></tr></table>	Sr. No.	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks	1	30312611	PIPE FITTING	TH-I	3 hrs	100	35	2	30312612	PLUMBING ARTICLE FITTING	TH-II	3 hrs	100	35	3	30312621	PIPE FITTING	PR-I	3 hrs	100	50	4	30312622	PLUMBING ARTICLE FITTING	PR -II	3 hrs	100	50			TOTAL			400	170
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Syllabus :- PLUMBING

THEORY PAPER – I, PIPE FITTING

- 1 Familiarization of the trade, types of works to be done plumbing works
- 2 Use of hand tools, names of the tools
- 3 Description of soil waste pipe, vent pipe and its importance, siphon pipe and its importance
- 4 Types of traps and its uses
- 5 Slow sand filters and mechanical, filters, Impurities in water Pipes.
- 6 Values used in plumbing system (sluice valve), reflux valve, scour valve, air valve, pressure relief valve.
- 7 Free system, grid iron and radial system. Description of C.I. Pipes and fittings.
- 8 Water main street line in water storage as well as soil pipe and drainage system.
- 9 PVC description of ISI specifications of pipes.
- 10 Methods applied for lift pump valves and taps used in service connection, air lock in the pipes and its removal
- 11 Storage tanks for general water supply purpose. Steel tanks, masonry tanks automatic float switch underground tanks.
- 12 Causes for damage in taps, valves and water meter and tank, etc. methods of rectification and modification.

THEORY PAPER – II, PLUMBING ARTICLE FITTING

- 1 Description of sanitary fitting ,General points to be observed when choosing sanitary fittings
- 2 Description of Indian style W.C. and R.W.C. standard sizes, types Precautions to be observed while installing
- 3 Types of urinal, description of flushing, devices, Lipper automatic tanks, Principles of siphon ball valves in a flushing system.
- 4 Description of wash basin, its standard sizes and accessories required for installing wash basin, sizes of mirror, towel rail, glass shelf, precautions to be observed while installing.
- 5 Description sink types of sink, sizes of kitchen, sink, pantry, laundry sink, sizes of waste outlets.
- 6 Description of bath tub, accessories required for installing a bath tub
- 7 Importance of introducing the trap of the sanitary fittings. Deep seal traps and low seal traps.
- 8 Conservancy system and water carriage system. Combined system.
- 9 Standard length of store ware pipes, sizes, self cleaning velocity, sewage system. rod.
- 10 Earth work excavation and laying drain pipes. Precautions to be observed.
- 11 Description of vent pipes its necessity. Traps used in drainage line, man holes, cess pool, soak pits, septic tanks, size of septic tank according to the users.
- 12 Preparation and fixing up hot water supply as per layout.
- 13 Causes and remedies. Prevention of corrosion.

PRACTICAL - I, PIPE FITTING

- 1 Importance of the trade, safety precautions to be taken while doing
- 2 First aid, usage of tools and determine the materials from which they are made.
- 3 Cutting of pipes Fixing of waste pipe with bends, junction, jointing, fixing of vent pipe.
- 4 Fixing of floor taps, nanhi tap in bath And kitchen.
- 5 Simple pipe connections using G.I.
- 6 Laying water pipe connection to the sanitary fittings. Types of valves and fittings.
- 7 Laying and jointing of cast iron pipes
(lead pouring and lead caulking)
- 8 C.I. Socket pipe heavy, duty joining molten lead
- 9 Practicing on cutting and shaping PVC pipes to sizes, use and fixing of PVC Pipes.
- 10 Installing hand pump, finding out the defects and rectifying the same. Fixing of showers in toilets.
- 11 Erecting simple water supply system as per layout. Introducing valves where ever necessary and connecting to the storage tanks.
- 12 Reconditioning of taps, valves, flushing tanks. Testing for correct functioning

PRACTICAL - II PLUMBING ARTICLE REFITTING

- 1 Installing Indian W.C. with high level cistern including fixing flush pipe connection, water connection and connecting the outlet to the drainage line or inspection chamber
- 2 Installing western W.C. with low level flushing, cistern with flush pipe connection, fixing of double flap seat, connecting the outlet to the drainage line.
- 3 Installing a urinal with automatic flushing system connecting the same to the inspection chamber.
- 4 Installing of wash basin with lead waster or PVC waste pipe, connecting of the pillar tap to service connection, soap dish, and connect the waste to the gully trap or floor trap.
- 5 Installing a sink with drain board, waste outlet connecting the waste outlet with all fittings water service connection to the sink.
- 6 Installing a bath tub with hot and cold connection with shower, over flow and connection to the sink.
- 7 Method of arranging the waste outlets for urinals, flushing arrangements.
- 8 Laying and jointing of store ware pipe with the help of sight rail and bonding rod, jointing of stone ware pipes.
- 9 Laying and jointing of store ware pipe with the help of sight rail and bonding
- 10 Fixing of a fully trap and connecting the same to a chamber..
- 11 Providing vent pipe from a starting chamber construction of soak pits, and septic tanks.
- 12 Fixing up hot water supply. Domestic boilers, geysers, installation of hot water system.
- 13 Cleaning of sanitary fittings leakage and repairs.

List of equipment/machinery

1 Try square	04 nos
2. Pipe wrenches	04 nos
3. Hand drills	04 nos
4. Mortise chisel	04 nos
5. Plane jack	02 nos
6. Cutting pier	04 nos
7. Tap and Die set	04 nos
8. Washer cutter	04 nos
9. Smooth and rough files	04 nos
10. Screw drivers 15 cm	04 nos
11. Hack saw frame adjustable 30 cm	04 nos
12. Spirit level	01 nos
13. Polythene tube to check levels	02 nos
14. Trammel etc.	04 nos
15. Ball pain hammer 0.45 kg.	04nos
16. Steel rule 300mm	04 nos
17. Screw driver 300x9 mm	04 nos
18. Spanner D.E Set of metric 6/32	1 Set
19. Ring Spanner set 6/32	1 set
20. Hack saw frame adjustable	5 nos.
21. Socket box spanner 6/32	2 set
22. Oil can	4nos
23. Spirit level	2 nos
24. Singe cut file 15 cm .	4 nos
25. Double cut triangular file 15 cm	4 nos
26 Square file 15 cm	4nos
27 Flat file double cut	4 nos
28 Round file 30 cm	4nos
29. Locker drawer with stand. size (8 –drawer)	01 nos
30. Wooden table	1 nos
31. Black board	1 nos
32 Steel Tape 30 mtr	2 nos
33 Chain Wrench	2 nos

Raw Material Required

a. Consumable

- i. Cement
- ii. White cement
- iii Jute
- iv Thread
- v. M-seal
- vi. White lead
- vii. Kerosene

b. Non-consumable

- i. Charts
- ii. Models
- iii. Tray, etc.

Reference Books

Public Health and Engineering by Duggal	Basic Plumbing :- Sherry G.B.
Work shop Tech.. Hajara chaudhari	Basic Plumbing:- Philbin
