

**DETAILED SYLLABUS FOR THE POST OF JUNIOR INSTRUCTOR
(PLUMBER) IN INDUSTRIAL TRAINING DEPARTMENT**

(Cat.No. : 397/2021)

(TOTAL MARKS - 100)

MODULE	SUB HEADING	MARKS
1. SAFETY	1. Importance of safety and general precautions required for the trade. 2. Safety attitude development of the trainee by educating them to use Personal Protective Equipment (PPE).	5 Marks
2. Carry out cutting of Pipes of Different Dia in different angle and Joining of pipes by gas welding, Soldering and Brazing	1. Method of gas welding 2. Joining of Pipe in same dia by gas welding. 3. Method of soldering and brazing, flux users & Type of flux 4. Hard & soft solders -their properties, composition and uses	10 Marks
3. Construct Masonry brick wall and RCC casting. Brick wall cutting for concealing pipe line.	1. Concept of bricks, lime and cement 2. Preparation of mortars with various materials of varying composition 3. Common brick joints. 4. Plain cement concrete, RCC and Its proportion 5. Grades of coarse aggregate and fine aggregate, 6. Identify plumbing services required for each type of building according to usage.	15 Marks
4. Construct complete pipe line circuit with different types of Joints and fixing Cocks & valve on Pipe line.	1. Types of fittings for different joints & different pipes.:- CI, HCl, AC, AC Pressure, DI, GI Pipes 2. Joints:- Flange joint, Socket joint 3. Description of pipe fittings. 4. Methods of joining and their uses.	10 Marks
5. Perform Water analysis test, Water Pressure test and Water distribution system by using Pipe line.	1. Sources of water 2. Hard & Soft water, temporary hardness & permanent hardness. 3. Water purification stages and methods. 4. Expansion of water on freezing and heating. 5. Pressure of water on the sides of cistern or tank. 6. Water hammer in pipes.	10 Marks
6. Install and maintain different Electric pumps.	1. Plumber's materials Lead, tin, Zinc, solder, copper, red lead and their uses 2. Water supply system of a small town 3. Types of pumps suction head,	10 Marks

	Centrifugal pump 4. Contamination of water in a well.	
7. Construct inspection chamber, manhole, gutter, septic tank, socket	1. Inspection chamber, septic tank, description of drains, cesspools, soak pits 2. Layout of drainage system	10 Marks
8. Perform removal of leakage pipe line.	1. Method of dismantling and renewal of the valves and pipes 2. Leaks in pipes and noises in plumbing. 3. Installation of water meters. 4. Air lock in pipes and its removal	10 Marks
9. Perform fitting and maintenance of Fixture at different place	1. Lay out of one pipe system & Two pipe system 2. Method of testing leakage 3. Different types of traps, ventilation, antisiphonage and sinks. 4. Fire hydrants and their fittings.	10 Marks
10. Carry out fitting, fixing & laying installation of hot & cold water pipe line	1. Heat and Temperature. 2. Method of transmission of heat 3. Heating system by different thermal units. 4. Domestic hot and cold water 5. Repairs to service main. Domestic boilers and Geysers. 6. Method of ventilating pipe. Precaution against air Poisoning. 7. Fixing of solar water system	10 Marks

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper