

TENTATIVE SYLLABUS FOR

JUNIOR INSTRUCTOR - PLUMBER

Module-1 - General Workshop Accidents, Safety precautions and Advantages of Preventive Maintenance

Cause of workshop accidents, Types of safety precautions, General rules for good housekeeping, Safety attitude development by educating the use of Personal Protective equipments (PPE), Safe disposal of waste materials, benefits of good shop floor maintenance and 5s concept and benefits, function and advantages of preventive maintenance.

Module-2 - Measuring, Marking Instruments and various Precision Measuring Instruments

Commonly used marking media, Steel Rule, various types of calipers, surface gauge, surface plate, marking table, scribe, divide, punches, angle plate, try square and combination set.

Types and working Principle of precision measuring instruments - Outside micrometer (Analog & Digital), Depth micrometer, Vernier Caliper & Vernier Height Gauge.

Module-3 - Plumber's Hand Tools, Equipments and Machineries and their uses

Pipe wrenches, vices, Pipe cutter, Chain Pipe cutter, Pipe bending Machine, Grinding Machine, Drilling Machine, Tap and wrenches, Pipe stock and Die, Blow lamp, hand blower, soldering irons, Plumbers saw, Plumb bob, Hammers, Spirit Level, Files, Chisels, Spanners, Oil stone, Jack planes.

Module-4 - Pipe and Pipe fittings

Types of Pipes - uses, sizes, manufacturing methods, grading and colour code and various pipe fittings with their uses.

Module-5 - Masonry (Tools, Equipments, materials and masonry works)

Tools & Equipments - Spade, Shovel, Pickaxe, Mortar Pan, Block Trowel, Jointing board, Steel square, wall straightening tools, cutting and trimming tools, finishing tools, builders and masons square, Tapes, Leveling tools, concrete mixing machine, vicat's needle apparatus, slump cone apparatus,

Materials - Bricks, cements, fine aggregates, coarse aggregates, water, lime, iron bars.

Masonry works—Bonding (Various types), excavation, foundation, Plastering, concrete (Types)

Module-6 - Fastenings

Permanent Fastenings – Welding, Riveting and hard soldering - Types, materials Tools & Equipments

Temporary Fastening – Types of screw threads, types of bolts and nuts, studs, circlips, washers, Locking arrangement, multi start thread, right hand left hand thread, conventional representations, Symbols.

Module -7 - Sanitary Appliances

Sanitary Appliances – Types, Uses and working principle. Indian water closet, European water closet and urinals. Wash basin, kitchen sink, laboratory sink, bath tub, bidet.

Flushing System: Flushing valve, Ordinary flushing cistern, Automating flushing cistern, mixing tap, popup waste, shower, pillar tap, towel rail, Toilet roll holder

Module–8 - Domestic drainage System and Public sewer System

House drainage system: One – pipe system, Two – pipe system, single stack systems, partially ventilated single stack system, ventilation, anti siphonage, traps, cess pool, septic tank, inspection chamber, gully chamber, septic tank, cleaning of waste pipe line and drainage system, cleaning equipments, laying of sanitary pipe and sewer pipe, inspection of testing and leakage, maintenance of drainage system.

Module – 9 - Water

Water – Source of water, method of drilling tube well, contamination of water in a well, impurities of water, water treatment, Hardness of water, method of removing water hardness, qualities required for potable water, water purification, water distribution systems, Tap and valves.

Module–10 - Heating system

Heating System: Heat, temperature, heat capacity, specific heat capacity, units of heat, measurement of temperature, heat transfer, water heater, domestic hot water supply system, central heating, solar water heater, salient features of solar water heating system.

Module–11 - Pump and Pumping

Necessary of pumps, types of pumps, classification of pumps. Installation of pumps, repairing of pumps.

Module–12 - Hot water supply

Geyser:- Necessary, types, working principle, installation and repairing. Hot water supply pipes and fittings.

Solar water heater system:- Uses, working principle, types, installation and repairing.

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Note: This syllabus is prepared on the basis of previous exams. This may have some changes when the original syllabus published by Kerala Public Service Commission.

