

DETAILED SYLLABUS FOR THE POST OF PUMP OPERATOR (Ground Water) -
Direct Recruitment
(CAT.NO: 005/2023)

Module	Topics	Number of questions
1	Safety, marking tools and measuring instruments: First aid, Occupational Safety & Health, safety in workshop, different marking tools, different measuring tools, vernier calipers, micrometer, telescopic gauge, bore dial gauge, dial test indicator, straight edge, feeler gauge, thread pitch gauge, vacuum gauge, tire pressure gauge, etc.	10
2	Basic fitting: Basic fitting tools, Fasteners, gaskets & oil seals, cutting tools, drilling machine, taps & dies, etc.	10
3	Working cycles: Terms related to engine, Otto cycle, Diesel cycle, firing order, valve timing diagram, etc.	10
4	Engines: Types, components, working, and construction.	10
5	Cooling and lubrication systems: Cooling system ±Need, types, components, construction, working and maintenance. Lubrication system ± Need, types, components, construction, working and maintenance.	10
6	Fuel system: Fuel system in IC engines (Petrol & Diesel) ±Need, types, components, construction, working and maintenance. Electronic diesel & petrol control systems ±MPFI, CRDI, HEUI, ECU, etc.	10
7	Intake, exhaust systems, emission and pollution control: <i>Intake & exhaust systems</i> ± Need, types, basic components, construction, working and maintenance. <i>Emission control</i> ±Basics, types, Emission control systems ± EGR, DPF, SCR, evaporative emission control, catalytic convertors, etc.	10
8	Troubleshooting, Servicing and maintenance: Fault finding, troubleshooting, servicing and maintenance of diesel engines.	10
9	Electrical and electronic systems related to automobiles: Basic electricity. fuses & circuit breakers. Battery- types, construction, charging, care & maintenance. Solenoids & relays.	10
10	Overhauling of alternator and starting motor: Basics of AC & DC generators and related circuits used in vehicles ± Need, types, basic components, construction, working and maintenance.	10

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.