

Syllabus

Post: Foreman - Kadamba Transport Corporation Limited (KTCL)

Foreman Exam Syllabus (Technical/Mechanical) (Total:-100 Marks)

The exam is typically divided into technical units, driving license-related topics. and general job-related knowledge.

1. Technical Subjects (Core Mechanical Engineering):-

- Fluid Mechanics & Hydraulic Machines:- Properties of fluids, hydraulic pumps (centrifugal, reciprocating), turbines, viscosity, Bernoulli's equation.
- Thermal Engineering:- Laws of thermodynamics, Petrol & Diesel engines (2-stroke & 4-stroke), I.C. Engines, compressors, heat transfer.
- Strength of Materials :- Stresses and strains, Poisson's ratio, Hooke's law, Shear force & bending moment diagrams, Rivets, bolts, and springs.
- Machine Elements & Materials:- Bearings, Governors, Flywheels, Gears, Boiler mountings, ferrous/non-ferrous metals.
- Constructional Features of Engine:- IC Engine components (cylinder block, piston, rings, connecting rod, crankshaft), valves, valve operating mechanisms.
- Chassis & Suspension :- Chassis frame, Front axle, Suspension systems, Steering systems (Ackerman, Rack & pinion), Brake system (hydraulic, air brake, disc brake).
- Transmission & Electrical System:- Clutches (dry, wet, centrifugal), Gearbox (sliding mesh, synchromesh), Propeller shaft, Differential, Alternator, Starter motor, Ignition systems.
- Transportation Management & Modern Technology:- M.V. Act features, Fuel injection systems (MPFI, CRDI), Pollution control, Automobile Accessories (ABS, EBD), Hybrid/Electric vehicle components.

2. General Studies & Aptitude

- General Knowledge: Current events, Goa history, culture, and geography.
- General English: Grammar, vocabulary, and sentence structure.
- Reasoning Ability: Coding-decoding, blood relations, directions, series, and data interpretation.
- Numerical Aptitude: Basic arithmetic, averages, time and distance, and ratios.

3. Driving License & Job-Related Topics: -

- Motor Vehicles Act: Detailed knowledge of registration, permits, construction/maintenance of vehicles, traffic rules, insurance, and offences.
- Job Related Topics: Specific maintenance protocols, workshop safety, and management.