

भारतीय प्रौद्योगिकी संस्थान गोवा

गोवा अभियांत्रिकी महाविद्यालय परिसर फार्मागुडी, फोंडा – ४०३४०१, गोवा

Indian Institute of Technology Goa

Goa College of Engineering Campus, Farmagudi, Ponda – 403401, Goa



IITGOA/RECT/2023/02/TA-ME/711

Date: 23/11/2023

NOTICE

Syllabus for Written Test

Post Name: Technical Assistant - Mechanical Engineering (PL 4; Group C)

Date of Written Test and Skill Test(Qualifying in Nature): 08/12/2023

Ref: Advt No IITGOA/RECT/2023/02 dated 15/09/2023

- 1. Drawing:** Concepts of orthographic and isometric projections, and development of surfaces, computer aided drafting.
- 2. Engineering materials:** Ferrous and non-ferrous metals and its alloys, non-metallic materials.
- 3. Engineering mechanics:** Concepts of force and moment, equilibrium of rigid bodies, free body diagram, friction, work, power and energy.
- 4. Solid mechanics:** Concepts of stress and strain, shear force and bending moment diagrams, moment of inertia, torsion, bending.
- 5. Theory of machines:** Kinematics of machines, cams and followers, gears and gear trains.
- 6. Machine design:** Theories of failure, design of shafts, springs, power screws, fasteners and welded joints.
- 7. Thermodynamics:** Laws of thermodynamics, steam boilers, steam turbines, steam condensers.
- 8. Fluid mechanics and hydraulics:** Fluid properties, pressure measurements, water turbines, centrifugal and reciprocating pumps.
- 9. Energy conversion:** Internal combustion engines, energy generation through power plants, wind and solar energy.
- 10. Refrigeration and air conditioning:** Refrigerants, vapour compression refrigeration system, refrigeration components, psychometrics, air conditioning systems.
- 11. Manufacturing processes:** Foundry, welding, metal forming processes, turning, drilling, boring, milling, shaper, non-traditional machining.
- 12. Metrology:** Errors and its sources, Limits, fits and gauges, linear and angular measurements.

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Registrar i/c