RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER

Syllabus for Screening Test for the post of Assistant Engineer (Mechanical) for Ground Water Department.

1. **FLUID MECHANICS AND FLUID MACHINERY:**

2. **THERMAL ENGINEERING:**
   One dimensional steady state, conduction through walls and cylinders. Fins, concept of thermal boundary layer, Convection, Heat transfer coefficient, combined heat transfer coefficient, Heat exchangers. Introduction to Non-conventional sources of energy like solar, wind, geo-thermal, ocean etc. Construction and working of IC Engines: 2 stroke and 4 stroke, SI and CI engines, performance characteristics of IC Engines.

3. **MACHINE DESIGN:**

4. **INDUSTRIAL ENGINEERING:**

5. **PRODUCTION AND OPERATIONS RESEARCH:**
   Product design and cost selection of manufacturing processes and systems. Break even analysis, Operation and flow process charts, Plant Location and Plant layout, materials handling, scheduling, despatching and routing. Operations research methods for inventory control, replacement theory, concept of network analysis. PERT and CPM.

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**Pattern of Question Paper**

1. Objective type paper
2. Maximum marks- 100
3. Number of questions 100
4. Duration of paper - 2 hours
5. All question carry equal marks
6. There will be negative marking

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