

# **RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER**

## **SYLLABUS FOR SCREENING TEST FOR THE POST OF GROUP INSTRUCTOR/ SURVEYOR/ ASSISTANT APPRENTICESHIP ADVISOR GROUP II FOR TECHNICAL EDUCATION DEPARTMENT.**

- Safety precautions, first aid, fire fighting equipments, treatment of electric shock, burns and cuts. General purchase procedures, inspection of material, maintenance of store records and store keeping. General principles governing layout of workshops. Factories Act - 1948, Apprenticeship Act – 1961.  
Law of parallelogram of forces. Resultant of two or more forces. Basic conditions of equilibrium, law of polygon of forces. Moment and applications of moments. Newton's laws of motion. Work, power and energy, work done by a constant force.
- Nature of electricity, E.M.F., voltage, current, work, power, energy, A.C. and D.C. supply. Ohm's law, Kirchhoff's laws, General concept of cell and battery & their defects & remedies. Calculation of voltage, current and power in A.C. circuits. Wire Joints, types of domestic and power wiring and their applications.  
Brief idea of conductors, insulators and semi conductors. Different types of electrical and electronic components & their symbols. Different types of resistors, capacitors, inductor, switches and connectors.  
Digital and analog signals. Basic logic functions and basic logic gates. Decimal, Binary, Octal and Hexadecimal number system.  
Basic idea of Audio CD player, Audio conferencing, Digital versatile disk (DVD), Home theatre system, LCD & LED TV, Plasma TV & Blue ray disc.
- Different types of woods, their uses, seasoning of wood, different types of paintings and varnishing. Brief description and uses of carpenter's tools and machines.  
Lettering, construction of plain geometrical figures (lines, angles, triangles, rhombus, quadrilaterals, polygons, ellipses, parabola, hyperbola, etc.) orthographic projections. Principles, representation and construction of different types of scales, graphic scales. Isometric projection of geometrical solids.  
Basic principles of building planning and building bye laws. Different types of pollutants in environment, land, soil, water and noise pollution.

- Name, functions, material and specifications of common hand tools, holding tools, holding devices, cutting tools, measuring and marking tools used in carpentry, welding, sheet metal, plumbing and fitting shop. Description of a work bench. Specifications and classification of lathe machines & drilling machines. Common engineering materials like cast iron, mild steel, aluminum, copper, timber, plastic, tin, zinc, lead and alloys. Elementary knowledge of various heat treatment processes. Care and maintenance of batteries, dynamo and self-starters of vehicles. Various systems used in vehicles - Lubrication, cooling, ignition, brakes and governors.
- Generation, classification and application of computers. Hardware, software, and firmware. Data types, physical and logical concept of data. Information and its characteristics. Representation of information inside a computer. Awareness of IT – ACT 2000.

**Note:- Pattern of Question Papers:**

1. Objective Type Paper.
2. Maximum Marks : 450.
3. Number of Questions : 150.
4. Duration of Paper : 2:30 hours.
5. All Questions carry equal marks.
6. There will be **Negative Marking.**

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