

RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER

SYLLABUS FOR SCREENING TEST FOR THE POST OF JUNIOR ENGINEER (CIVIL) (DIPLOMA HOLDERS), RURAL DEVELOPMENT & PANCHAYATI RAJ DEPARTMENT

Part – A

- 1 प्राचीन सभ्यताएं – कालीबंगा, आहड़-बैराठ
 - 2 मुगल शासन और राजपूत राज्य (1526–1707)
 - 3 राजस्थान में स्वतंत्रता संग्राम एवं राजस्थान का एकीकरण (1857 से 1956)
- वास्तुशिल्प एवं स्थापत्य – मन्दिर, दुर्ग व हवेलियां
 - राजस्थान के भक्त एवं संत
 - राजस्थान की संस्कृति – रीति-रिवाज, मेले, त्यौहार, उत्सव, व्रत एवं उपवास
 - राजस्थान की लोक परम्पराएं – नृत्य, गीत, संगीत व कलाएं
 - राजस्थान के सन्दर्भ में समसामयिक घटनाएं
 - राज्य प्रशासन – कार्यपालिका, व्यवस्थापिका एवं न्यायपालिका
 - जिला प्रशासन – जिलाधीश, उपखण्ड अधिकारी एवं तहसीलदार – कार्य एवं भूमिका
 - स्थानीय प्रशासन – ग्रामीण एवं नगरीय
 - राजस्थान का सामान्य भूगोल – स्थिति, आकार, विस्तार, प्रशासनिक विभाजन, स्थलाकृतिक स्वरूप, जलवायु, वनस्पति, अपवाह व कृषि
 - सर्वेक्षण – तलेक्षण (लेवलिंग) सर्वेक्षण की विशेषताएं व समस्याएं
 - राजस्थान के हस्तशिल्प, लघु उद्योग, वृहद् उद्योग, राज्य में संचालित योजनाएं ।

Part – B

:- CIVIL ENGINEERING :-

1 Building Technology and Construction Management :-

Classification, properties and use of Stones, Bricks, Tiles, Lime, Cement, Concrete, Steel and Mortar. Brick and Stone Masonry, brick bonds and type of Stone masonry walls, Lintles and Arches, roofs, Damp proofing, expansion and construction joints. Centering and shuttering, Stairs, Doors and Windows. Basic Principles of planning of building, orientation of buildings.

2 Surveying, Estimating & Costing :

Chain, Compass surveying, leveling with theodolite, Temporary and permanent adjustment, Measurement of distances and directions, Plain table survey, curves, Estimation of quantities for various types of Construction, Rate Analysis, Preparation of Tender and Contract documents.

3 Strength of Materials :-

Concept of stress and strains, Hook's law, shear stresses, Poisson's Ratio, Bending moment and shear force.

4 Reinforced Concrete Design :-

Properties of concrete, Quality Control measures, Design of beams, slabs and footings and compression members.

5 Transportation Engineering :-

Classification of Roads, highway materials, Geometric Design of highways, Necessity of Road drainage, Surface and sub-surface Drainage, Selection of site of cause Ways, culverts, rural roads, Soil Stabilization and construction of fair weather roads, construction of bunds.

6 Soil Engineering :-

Classification of soil as per I.S. codes, Field identification tests for soils, water content, Specific Gravity, Void ratio, porosity, Degree of saturation, unit weight, Density Index etc. and their inter-relationship, particle size distribution, consistency limits, soil permeability and its determination in the Laboratory and fields. Compaction of soil and quality control, soil stabilization methods, new mark's chart and its uses.

Elements of shear strength parameters and their determination. Bearing capacity of shallow foundation, earth pressure on retaining wall, stability of simple slopes.

7 Public Health Engineering :-

Estimation of quantities of sewage, sewerage systems, laying of sewers, maintenance works and sewage disposal, primary and secondary treatment .

Rural sanitation : Design consideration for rural water supply systems, hand pumps and their maintenance construction of low cost latrines, construction of prefabricated septic tanks, construction of soak-pits.

8 Fluid mechanics and Irrigation :-

Flow through pipes, channels, classification and construction details of pumps. Elements of hydrology, reservoirs and earth and rockfill dams-CD works and river training works, determination of average annual runoff and water requirements of crops.

Pattern of Question Papers :

- 1 Objective Type Question Paper.
- 2 Maximum Marks : 100
- 3 Number of Questions : 100
- 4 Duration of Paper : Two Hours.
- 5 All Questions carry equal marks.
- 6 There will be **Negative Marking**.
- 7 20% Questions will be from Part-A and 80% questions from Part-B.
