

प्रदेश लोक सेवा आयोग  
कोशी प्रदेश, विराटनगर, नेपाल  
प्रदेश निजामती सेवा र स्थानीय सरकारी सेवा अन्तर्गत प्राविधिक तर्फ इञ्जिनियरिङ्ग सेवा, सिभिल समूह, चौथो तह  
(असिष्टेण्ट सब-इञ्जिनियर) पदको खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

प्रथम र द्वितीय पत्र: सेवा सम्बन्धी

खण्ड (क)

**1. सार्वजनिक व्यवस्थापन (Public Management)**

- 1.1 कार्यालय व्यवस्थापन (Office Management)
  - 1.1.1. कार्यालयमा सञ्चारको महत्व, किसिम र साधन
  - 1.1.2. कार्यालय कार्यविधि (Office Procedure) : पत्र व्यवहार (Correspondence), दर्ता र चलानी (Registration & Dispatch), परिपत्र (Circular), तोक आदेश (Order), टिप्पणी (Tippani)
  - 1.1.3. अभिलेख व्यवस्थापन (Record Management): निर्माणसँग सम्बन्धित
- 1.2 कर्मचारीले पालना गर्नुपर्ने आचरण र कर्तव्यहरू
- 1.3 सार्वजनिक सेवा प्रवाहको तरिका र माध्यमहरू
- 1.4 नागरिक वडापत्र (Citizen Charter) : महत्व र आवश्यकता
- 1.5 सार्वजनिक व्यवस्थापनमा निर्देशन, नियन्त्रण, समन्वय, निर्णय प्रक्रिया र नेतृत्व सम्बन्धी जानकारी
- 1.6 नागरिक कर्तव्य र दायित्व तथा अनुशासन
- 1.7 सार्वजनिक खरिद सम्बन्धी सामान्य जानकारी
- 1.8 भ्रष्टाचार निवारण ऐन, २०५९
- 1.9 प्रदेश सुशासन (व्यवस्थापन तथा संचालन) ऐन, २०७६ र सो को नियमावली, २०७९

**2. Engineering Drawing**

- 2.1 Unit, Dimension and their conversion with special reference to SI system
- 2.2 Elementary idea of drawing (object); Building drawings
- 2.3 Drafting techniques and methods in common practice
  - 2.3.1 Different types of lines and effects
  - 2.3.2 Vertical line, horizontal line & inclined line (thick, thin, dark, light)
  - 2.3.3 Representation of different materials: stone, timber, glass, metal, brick, concrete, sand, earth, tile, plaster
  - 2.3.4 Dimensioning: element to element, center to center and overall dimensioning
- 2.4 Measured Drawing
  - 2.4.1 Methods of measurement of horizontal and vertical dimensions
  - 2.4.2 Sectional measurements
  - 2.4.3 Scales: choice, use and conversion
- 2.5 Working Drawing: Significance of detailing in terms of accuracy of estimation, bill of quantities and construction supervision Structural working drawings and structural detail: column, beam, slab, foundation, and other structural elements, Work Completion Drawing.

**3. Estimating, Costing and Supervision**

- 3.1 Purpose of estimating
- 3.2 Methods of estimate
- 3.3 Types of estimates (preliminary estimate, approximate quantity estimate, detailed estimate, revised estimate)
- 3.4 Standard estimate formats of government of Nepal
- 3.5 Rate analysis and Norms
- 3.6 Estimating items of construction works
- 3.7 Estimate of civil works, and site development work

- 3.8 Specifications: purpose, types and necessity
- 3.9 Concept and purpose of property valuation
- 3.10 Supervision, Measurement Book.
- 4. Engineering Survey**
  - 4.1. Basics of surveying, its importance and types
  - 4.2. Scale, plans, maps
  - 4.3. Conventional signs and system of field booking of surveying
  - 4.4. Compass, Plane table, Levelling and Theodolite
- 5. Construction Materials**
  - 5.1. Rocks/stone: types of rocks, their characteristics & properties of good stone
  - 5.2. Aggregates (fine & coarse)
  - 5.3. Cement: Different types of cement and its properties; Admixtures
  - 5.4. Metal and alloys
  - 5.5. Brick: types of bricks & sizes of bricks available in Nepal
  - 5.6. Lime and *Surkhi*: types, properties and its uses
  - 5.7. Mortar: types, properties and its uses along with proportions
  - 5.8. Paints and varnishes: constituents, types and its uses
  - 5.9. Floor finishes-punning, tiles, mosaic, clay, concrete, vinyl, marble, flagstones,
  - 5.10. Timber and Wood
  - 5.11. Wall finishes: plasters (cement, lime and mud), punning and cladding (wooden, stone, tiles, marbles)
  - 5.12. Roofing materials
  - 5.13. Quality control including different Laboratory tests

## खण्ड (ख)

- 6. Construction Technology**
  - 6.1. Description and Objectives
  - 6.2. Types of construction works
    - 6.2.1. Masonry works; Concrete works; Flooring works; Finishing works
    - 6.2.2. Construction of building components
    - 6.2.3. Earthquake Resistant Building Construction
    - 6.2.4. Temporary constructions
    - 6.2.5. Rural technology and alternative energy
  - 6.3. Concrete technology and management
    - 6.3.1. Constituents of cement concrete (cement, aggregate, water, admixture)
    - 6.3.2. Grading of aggregates
    - 6.3.3. Water cement ratio
    - 6.3.4. Workability and strength of concrete
    - 6.3.5. Concrete mix, laying, pouring, and compaction
    - 6.3.6. Reinforcement laying
    - 6.3.7. Formwork
    - 6.3.8. Curing of concrete
    - 6.3.9. Storage and management of construction material
    - 6.3.10. Record keeping at construction site (daily work done, manpower mobilized, material storage)
    - 6.3.11. Construction safety
    - 6.3.12. Scheduling tool (bar chart) 6.
- 7. Building Services**
  - 7.1. Water supply, Types of storage (underground, overhead), types of water supply pipes and its fitting
  - 7.2. Septic tank, soak pit, vents, manhole, types of sewerage pipes
  - 7.3. General principle of electrical installation and distribution, types of wiring systems (surface, conceal), safety precautions (earthing, lightning arrestors)
  - 7.4. Lighting: General principle of lighting & Lighting fixtures
  - 7.5. National Building Code of Nepal

## **8. Local Infrastructures**

- 8.1. Roads and Bridges: Components of Road network, Process of road construction, layers of road structure and different types of pavements; Development of road network in Nepal; Layout and construction of trails, rural roads and motorable roads; Cross drains (bridges, culverts, causeways) and Side drains for roads; Retaining walls; Road signs and Traffic signals. Basic knowledge on Transport Master Plan (Province, Local)
- 8.2. Irrigation: Components of irrigation system, need for irrigation; Methods of irrigation; Head works and canal network; operation and maintenance of irrigation system and River training works.
- 8.3. Water Supply: Components of water supply system, Community based water supply system; Selection of water source with adequate quantity; Water demand analysis, operation, and maintenance of water supply, basic water treatment and filtration process, Water user's contribution in water supply.

## **9. General information about legislations**

- 9.1. The Constitution of Nepal
- 9.2. Local Government Operation Act, 2074 (related to local infrastructures development)
- 9.3. General information on Province Civil service Act and Local Service Act

