

प्रदेश लोक सेवा आयोग

सुदूरपश्चिम प्रदेश

प्रदेश तथा स्थानीय तह तर्फ नेपाल इन्जिनियरिङ्ग सेवा, सिभिल समूह अन्तर्गतका जनरल, हाइवे, इरिगेशन, हाइड्रोपावर र हाइड्रोलोजी उपसमूह, सहायकस्तर चौथो तह असिष्टेन्ट सब-इन्जिनियर पदको खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम एवं परीक्षा योजना

पाठ्यक्रमको रूपरेखा:- यस पाठ्यक्रमको आधारमा निम्नानुसारका चरणमा परीक्षा लिइने छ:-

क. प्रथम चरण: लिखित परीक्षा (Written Examination)

पूर्णाङ्क: १००

ख. द्वितीय चरण: अन्तर्वार्ता (Interview)

पूर्णाङ्क: १५

### परीक्षा योजना (Examination Scheme)

प्रथम चरण :- लिखित परीक्षा (Written Examination)

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या × अङ्कभार	समय
सेवा सम्बन्धी	१००	४०	वस्तुगत बहुवैकल्पिक (Multiple Choice)	५० प्रश्न × २ अङ्क=१००	४५ मिनेट

द्वितीय चरण:- अन्तर्वार्ता (Interview)

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	१५	मौखिक

### द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुबै हुन सक्नेछ ।
- लिखित परीक्षामा यथासम्भव निम्नानुसार प्रश्नहरू सोधिनेछ ।

पाठ्यक्रम एकाइ	१	२	३	४	५	६	७	८
प्रश्न संख्या	५	७	६	७	८	५	१०	२

- वस्तुगत बहुवैकल्पिक (Multiple choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर वापत २० प्रतिशत अङ्क कट्टा गरिनेछ। तर उत्तर नदिएमा त्यस वापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका ऐन नियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महीना अगाडी (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई)कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ।
- प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको अन्तर्वार्तामा सम्मिलित गराइने छ।
- पाठ्यक्रम लागू हुने मिति:-२०७८/०८/०६

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पत्र/विषय:- सेवा सम्बन्धी

**1. Engineering Drawing**

- 1.1 Unit, Dimension and their conversion with special reference to SI system
- 1.2 Elementary idea of drawing (object); Building drawings
- 1.3 Drafting techniques and methods in common practice
  - 1.3.1 Different types of lines and effects
  - 1.3.2 Vertical line, horizontal line & inclined line (thick, thin, dark, light)
  - 1.3.3 Representation of different materials: stone, timber, glass, metal, brick, concrete, sand, earth, tile, plaster
  - 1.3.4 Dimensioning: element to element, centre to centre and overall dimensioning
- 1.4 Measured Drawing
  - 1.4.1 Methods of measurement of horizontal and vertical dimensions
  - 1.4.2 Sectional measurements
  - 1.4.3 Scales: choice, use, and conversion
- 1.5 Working Drawing
  - 1.5.1 Significance of detailing in terms of accuracy of estimation, bill of quantities and construction supervision
  - 1.5.2 Structural working drawings and structural detail: column, beam, slab, foundation, and other structural elements

**2. Estimating, Costing, and Supervision**

- 2.1 Purpose of estimating
- 2.2 Methods of estimate
- 2.3 Types of estimates (preliminary estimate, approximate quantity estimate, detailed estimate, revised estimate)
- 2.4 Standard estimate formats of the government of Nepal
- 2.5 Rate analysis and Norms
- 2.6 Estimating items of construction works
- 2.7 Estimate of civil works, and site development work
- 2.8 Specifications: purpose, types, and necessity
- 2.9 Concept and purpose of property valuation
- 2.10 Supervision

**3. Engineering Survey**

- 3.1 Basics of surveying, its importance, and types
- 3.2 Scale, plans, maps
- 3.3 Conventional signs and system of field booking of surveying
- 3.4 Basics of Chain, Compass, Plane table, Levelling, and Theodolite Total station and GPS
- 3.5 Levelling, Classification of leveling works, Methods of leveling, Levelling instruments and accessories, Principles of leveling
- 3.6 Setting Out: Small buildings

**4. Construction Materials**

- 4.1 Rocks/stone: types of rocks, their characteristics & properties of good stone
- 4.2 Aggregates (fine & coarse)
- 4.3 Cement: Different types of cement and its properties; Admixtures
- 4.4 Metal and alloys
- 4.5 Brick: types of bricks & sizes of bricks available in Nepal

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- 4.6 Lime and Surkhi: types, properties, and its uses
- 4.7 Mortar: types, properties, and its uses along with proportions
- 4.8 Paints and varnishes: constituents, types, and its uses
- 4.9 Floor finishes-punning, tiles, mosaic, clay, concrete, vinyl, marble, flagstones, wooden boarding, parquet
- 4.10 Wall finishes: plasters (cement, lime, and mud), punning, and cladding (wooden, stone,tiles, marbles)
- 4.11 Roofing materials
- 4.12 Use of local construction materials
- 5. Construction Technology**
  - 5.1 Description and Objectives
  - 5.2 Types of construction works
    - 5.2.1 Masonry works; Concrete works; Flooring works; Finishing works
    - 5.2.2 Construction of building components
    - 5.2.3 Earthquake Resistant Building Construction
    - 5.2.4 Temporary constructions
    - 5.2.5 Rural technology and alternative energy
  - 5.3 Foundation and bearing capacity
    - 5.3.1 Types of foundation: shallow, deep
    - 5.3.2 Safe bearing capacity of soil and its improvement
    - 5.3.3 Methods of excavation, shoring and dewatering
    - 5.3.4 Stone/brick masonry foundation
    - 5.3.5 Isolated, combined and raft foundation
    - 5.3.6 Strap beam, foundation beam and DPC beam
  - 5.4 Concrete technology and management
    - 5.4.1 Constituents of cement concrete (cement, aggregate, water, admixture)
    - 5.4.2 Grading of aggregates
    - 5.4.3 Water cement ratio
    - 5.4.4 Workability and strength of concrete
    - 5.4.5 Concrete mix, laying, pouring, and compaction
    - 5.4.6 Reinforcement laying
    - 5.4.7 Formwork
    - 5.4.8 Curing of concrete
    - 5.4.9 Storage and management of construction material
    - 5.4.10 Record keeping at a construction site (daily work done, manpower mobilized,material storage)
    - 5.4.11 Construction safety
    - 5.4.12 Scheduling tool (bar chart)
- 6. Building Services**
  - 6.1 Water supply, Types of storage (underground, overhead), types of water supply pipes, and its fitting
  - 6.2 Septic tank, soak pit, vents, manhole, types of sewerage pipes
  - 6.3 General principle of electrical installation and distribution, types of wiring systems (surface, conceal), safety precautions (earthing, lightning arrestors)
  - 6.4 Lighting: General principle of lighting & lighting fixtures

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**7. Local Infrastructures**

7.1 **Roads and Bridges:** Types of roads and bridges; Development of road network in Nepal; Layout and construction of trails, rural roads, motorable bridge, and Trail bidges (suspension, suspended and truss bridges) ; Cross drains (bridges, culverts, causeways) and Side drains for roads; Retaining walls; River training works; and low-cost erosion control measures (Bio-engineering works)

7.2 **Irrigation:** Need for irrigation; Methods of irrigation; Headworks and canal network; operation and maintenance of irrigation system, Water users Association (WUA)

7.3 **Water Supply and Sanitation:** Community based water supply system; Selection of the water source with adequate quantity; Water demand analysis; operation and maintenance of water supply, Concept of water safety, Concept of basic and total sanitation.

**8. Miscellaneous**

8.1 निजामती सेवा ऐन, २०४९ र नियमावली, २०५० सम्बन्धी सामान्य जानकारी

8.2 स्थानीय सरकार संचालन ऐन, २०७४

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