लोक सेवा आयोग
स्थानीय तह अन्तर्गतका प्राविधिक तर्फ इञ्जिनियरिङ्ग सेवा, सिभिल समूह, चौंथो तह, असिष्टेण्ट सव-इञ्जिनियर पदको प्रतियोगितात्मक परीक्षाको लागि पाठ्यक्रम

पाठ्यक्रमको रुपरेखा:– यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :

प्रथम चरण :– लिखित परीक्षा पूर्णाङ्क :– १००
द्वितीय चरण :– अन्तर्वार्ता पूर्णाङ्क :– २०

प्रथम चरण – लिखित परीक्षा योजना(Examination Scheme)

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

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	२०	मौखिक

द्रष्टव्य :

१. यो पाठ्यक्रम योजनालाई **लिखित परीक्षा र अन्तर्वार्ता** गरी दुई चरणमा विभाजन गरिएको छ ।
२. **प्रश्नपत्र अंग्रेजी भाषामा हुनेछ ।**
३. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
४. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरुको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
५. परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
६. लिखित परीक्षामा यथासम्भव निम्नानुसार प्रश्नहरु सोधिनेछ ।

पाठ्यक्रमका एकाइ	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
प्रश्न संख्या	6	6	6	8	8	3	10	3

७. आयोगबाट संचालन हुने परीक्षामा परीक्षार्थीले मोबाइल वा यस्तै प्रकारका विद्युतीय उपकरण परीक्षा हलमा लैजान पाइने छैन ।

८. यस पाठ्यक्रम योजना अन्तर्गतकापत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरु परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधनभई हटाईएका वा थप गरी संशोधनभई) कायम रहेकालाई यस पाठ्क्रममा परेको सम्झनु पर्दछ ।
९. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको अन्तर्वार्तामा सम्मिलित गराइनेछ ।
१०. पाठ्यक्रम लागू मिति :- २०७६/०२/१२

लोक सेवा आयोग

स्थानीय तह अन्तर्गतका प्राविधिक तर्फ इञ्जिनियरिङ्ग सेवा, सिभिल समूह, चौंथो तह, असिष्टेण्ट सव-इञ्जिनियर पदको प्रतियोगितात्मक परीक्षाको लागि पाठ्यक्रम

पत्र/ विषय :– सेवा सम्वन्धी

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 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
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
   - 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

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 Concrete technology and management
      5.3.1 Constituents of cement concrete (cement, aggregate, water, admixture)
      5.3.2 Grading of aggregates
      5.3.3 Water cement ratio
      5.3.4 Workability and strength of concrete
      5.3.5 Concrete mix, laying, pouring, and compaction
      5.3.6 Reinforcement laying
      5.3.7 Formwork
      5.3.8 Curing of concrete
      5.3.9 Storage and management of construction material
      5.3.10 Record keeping at construction site (daily work done, manpower mobilized, material storage)
      5.3.11 Construction safety
      5.3.12 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, lightening arrestors)
   6.4 Lighting : General principle of lighting & Lighting fixtures

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 and motorable roads; Cross drains (bridges, culverts, causeways) and Side drains for roads; Retaining walls; Road signs and Traffic signals; and River training works
   7.2 **Irrigation** : Need for irrigation; Methods of irrigation; Head works and canal network; operation and maintenance of irrigation system
   7.3 **Water Supply** : Community based water supply system; Selection of water source with adequate quantity; Water demand analysis; operation and maintenance of water supply

8. **General information about legislations**
   8.1 नेपालको संविधान (भाग १, २, ३, १७ र १८ तथा अनुसूचीहरू) (The Constitution of Nepal (From Parts 1, 2, 3, 17 & 18, and Schedules))
   8.2 स्थानीय सरकार सञ्चालन ऐन, २०७४ मा पूर्वाधार विकास सम्बन्धी व्यवस्था (Local Government Operation Act, 2074 (related to local infrastructures development))