

# प्रदेश लोक सेवा आयोग

## गण्डकी प्रदेश

इञ्जिनियरिङ्ग सेवा, सिभिल समूह, बिल्डिङ्ग एण्ड आर्किटेक्ट उपसमूह, अधिकृत सातौं तहका पदको खुला र  
अन्तरतह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

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द्वितीय पत्र :- बिल्डिङ्ग एण्ड आर्किटेक्ट सम्बन्धी विषय

### Section A- 30 Marks

- 1. Building Materials and Construction** 30%
- 1.1 Stone masonry: Types of stone used in stone masonry, specifications of stone masonry.
  - 1.2 Brick masonry: Classification of bricks, specifications of different types of bricks, testing of bricks, different shapes of bricks.
  - 1.3 Hollow Concrete Blocks: Various types of concrete blocks, use of concrete blocks in buildings.
  - 1.4 Sand: Requirement of good quality sand, sieve analysis, fineness modules.
  - 1.5 Lime: Different types of lime and their uses test of freshness.
  - 1.6 Mortar: Types of mortar, specifications, proportion of mortar for various types of masonry works.
  - 1.7 Paintings: Types of paints, specification for various types of painting Works.
  - 1.8 Water proofing: Water proofing materials, Water proofing at basement, ground floor and roofs, common water proofing problems in Nepal.
  - 1.9 Roofing Systems: Different types of roofing systems.
  - 1.10 Doors and windows: Different types of doors and windows, door and window details, merits and demerits of metal, aluminum & UPVC doors and windows.
  - 1.11 Walls: Different types of wall systems, Load bearing walls, partition walls and curtain walls.
  - 1.12 Pre-fabrication: Principles of pre-fabrication, advantages and disadvantages of a pre-fabricated building.
  - 1.13 Flooring: Different types of flooring, specification of floorings.
  - 1.14 Plastering: Different types of plasters and coating materials.
  - 1.15 Formworks: Shoring, underpinning, scaffolding and formworks.
  - 1.16 Building Elements: Foundation, super structure, lintel, floors, roofs, sun control devices, parapet, staircase, emergency stairs, elevators and escalators
  - 1.17 Building services: water supply and sanitation, electrification, heating and ventilation and air-conditioning, Fire Protection System in building.
  - 1.18 National Building Code: Hierarchy of building codes and its application, procedures for implementation of building code in Nepal.
  - 1.19 Development Control System in municipalities in Nepal
  - 1.20 Maintenance and repair of buildings
  - 1.21 Principles of low cost construction technique
  - 1.22 Passive Methods of energy conservation for heating and cooling in building
  - 1.23 Current building norms for estimating and costing

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### Section B- 20 Marks

- 2. Structural Design and Analysis** 20%
- 2.1 Design of RCC footings, columns, slabs, beams..
  - 2.2 Analysis of structural system in a building.
  - 2.3 Design of steel structure.
  - 2.4 Design of timber structure.
  - 2.5 Design of masonry structure.
  - 2.6 Common structural problems in RCC buildings in Nepal.
  - 2.7 Requirements of earthquake resistant building construction.
  - 2.8 Computer Aided Design (CAD) of building structure.
  - 2.9 Mandatory Rule of Thumb in building design.
  - 2.10 Non-engineered earthquake resistant building design.

### Section C- 30 Marks

- 3. Housing and Urban Planning** 30 %
- 3.1 Hierarchy of urban settlements,
  - 3.2 Types of urban settlement in Nepal
  - 3.3 Base Maps:
  - 3.4 Hierarchy of plans
  - 3.5 Principles of land use planning
  - 3.6 Building byelaws
  - 3.7 Periodic plans for local authorities
  - 3.8 Planning legislation of Nepal
  - 3.9 Environmental issues in urban development.
  - 3.10 Institutions involved in urban planning and development in Nepal.
  - 3.11 Types of urban development programs in Nepal
  - 3.12 Conservation of heritage sites,
  - 3.13 Settlement planning for disaster mitigation
  - 3.14 Municipalities of Nepal and their roles in urban development
  - 3.15 Town Development Committees and their roles in urban development.
  - 3.16 Different types of housing,
  - 3.17 Principles of housing design,
  - 3.18 Different models of land development,
  - 3.19 Squatters and slums,
  - 3.20 Private housing development,
  - 3.21 Rural housing, housing development programs in Nepal,
  - 3.22 Prospects of apartment and group housing in Nepal

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### Section D- 20 Marks

#### 4. Architecture

20%

- 4.1 History of architecture
  - 4.2 Contemporary world architecture
  - 4.3 Contemporary Nepalese architecture
  - 4.4 Traditional architecture of Nepal
  - 4.5 Architecture of Kathmandu Valley
  - 4.6 Principles of architectural design.
  - 4.7 Factors to be considered while designing buildings.
  - 4.8 Standards to be followed while designing buildings in Nepal
  - 4.9 Contemporary world architects and their works
  - 4.10 Architectural landmarks in Nepal
  - 4.11 Conservation of historic buildings.
  - 4.12 Ethics of architects in professional practice.
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प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र लिइने  
सामूहिक परीक्षण (Group Test) को लागि

### सामूहिक परीक्षण (Group Discussion)

यस प्रयोजनको लागि गरिने परीक्षण १० पूर्णाङ्क र ३० मिनेट अवधिको हुनेछ जुन नेताविहिन सामूहिक छलफल (Leaderless Group Discussion) को रूपमा अवलम्बन गरिने छ। दिइएको प्रश्न वा Topic का विषयमा पालैपालोसँग निर्दिष्ट समयभित्र समूहबीच छलफल गर्दै प्रत्येक उम्मेदवारले व्यक्तिगत प्रस्तुति (Individual Presentation) गर्नु पर्नेछ। यस परीक्षणमा मूल्याङ्कनको लागि देहाय अनुसारको कम्तीमा ३ जनाको समिति रहनेछ।

आयोगका अध्यक्ष वा निजले तोकेको सदस्य	- अध्यक्ष
विज्ञ	- सदस्य
दक्ष/विज्ञ (१ जना)	- सदस्य

### सामूहिक छलफलमा दिइने नमुना प्रश्न वा Topic

उदाहरणको लागि - उर्जा संकट, गरीबी निवारण, स्वास्थ्य बीमा, खाद्य सुरक्षा, प्रतिभा पलायन जस्ता Topics मध्येकुनै एक Topic मात्र दिइनेछ।