

माडी नगरपालिका

नगरपालिकाको कार्यालय

बसन्तपुर चितवन

सेवा करार अन्तर्गतको प्राविधिक तर्फ इन्जिनियरिङ सेवा ,सिभिल समुह ,साईट सुपरभाईजर,चौथो तह पदको प्रतियोगितात्मक परिक्षाको लागि पाठ्यक्रम

पाठ्यक्रमको रूपरेखा:- यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :
प्रथम चरण :- लिखित परीक्षा पूर्णाङ्क :- १००
प्रथम चरण: लिखित परीक्षा योजना(Examination Scheme)

परीक्षा प्रणाली	पूर्णाङ्क	उतीर्णाङ्क	प्रश्न संख्या X अङ्कभार	समय
वस्तुगत बहुवैकल्पिक (Multiple Choice)	१००	४०	५० प्रश्न X २ अङ्क = १००	६० मिनेट

द्रष्टव्य :

१. यो पाठ्यक्रम योजनालाई लिखित परीक्षा र अन्तर्वार्ता गरी दुई चरणमा विभाजन गरिएको छ ।
२. प्रश्नपत्र तथा परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
३. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको 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 ।
४. परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
५. पाठ्यक्रम लागू मिति :- २०७६।१०।५

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, lightning 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

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))

8.3 सार्वजनिक खरिद सम्बन्धी जानकारी ।