घ्याङलेख गाउँपालिका
गाउँ कार्यपालिकाको कार्यालय
हायुटार, सिन्धुली

घ्याङलेख गाउँपालिकामा करारमा प्राविधिक कर्मचारी व्यवस्थापन गर्ने सम्बन्धी कार्यविधि, २०७६ अन्तर्गतका प्राविधिक तर्फ इञ्जिनियरिङ्ग सेवा, सिभिल समूह, जनरल उपसमूहको अधिकृतस्तर छैठौं तहका पदहरुको खुला स्थानीय तह प्रतियोगितात्मक परीक्षाको माठ्यक्रम

पाठ्यक्रमलाई निम्नानुसार विभाजन गरिएको छ :

परीक्षाको चरण	परीक्षाको किसिम	पूर्णाङ्क
प्रथम	लिखित परीक्षा	१००
अन्तिम	अन्तरवार्ता	२०

परीक्षा योजना (Examination Scheme)

१. प्रथम चरण (First Phase): लिखित परीक्षा (Written Examination)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	पश्न संख्या x अङ्क	समय
प्रथम	सामान्य विषय	१००	४५	वस्तुगतः बहुवैकल्पिक प्रश्न (MCQs)	१०० प्रत्र x १ अङ्क	१ घण्टा ३० मिनेट

२. अन्तिम चरणः- अन्तर्वार्ता (Interview)

विषय	पूर्णाङ्क	परीक्षण प्रणाली	समय
व्यक्तिगत अन्तर्वार्ता (Individual Interview)	२०	मौखिक (Oral)	-

द्रष्टव्यः-

१. यो पाठ्यक्रम योजनालाई प्रथम चरण (लिखित परीक्षा) तथा अन्तिम चरण (अन्तर्वार्ता) गरी दुई भागमा विभाजन गरिएको छ।

२. प्रश्न पत्र अंग्रेजी वा नेपाली भाषामा हुनेछ।

३. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ।

४. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रत्रहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिने छ । तर उत्तर नदिएमा त्यस वापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन।

५. परीक्षा हलमा मोबाइल फ़ोन, स्मार्ट वाच, हेडफ़ोन वा यस्तै प्रकारका विद्धितीय उपकरण, पुस्तक, नोटबुक, झोला लगायतका वस्तुहरू लैजान पाईने छैन ।

६. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/ विषयका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका कानुन, ऐन, नियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भइ हटाइएका वा थप गरी संशोधन भएका) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।

७. प्रथम चरणको लिखित परीक्षामा छनौट भएका उम्मेदवारहरूलाई मात्र अन्तिम चरणको अन्तर्वार्तामा सम्मिलित गराइने छ।

८. प्रथम चरणको लिखित परीक्षा र अन्तिम चरणको अन्तर्वार्ताको कूल अङ्क योगका आधारमा अन्तिम परीक्षाफल प्रकाशित गरिनेछ ।

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घ्याङलेख गाउँपालिकामा करारमा प्राविधिक कर्मचारी व्यवस्थापन गर्ने सम्बन्धी कार्यविधि, २०७६ अन्तर्गतका प्राविधिक तर्फ इञ्जिनियरिङ्ग सेवा, सिभिल समूह, जनरल उपसमूहको अधिकृतस्तर छैठौं तहका पदहरुको खुला स्थानीय तह प्रतियोगितात्मक परीक्षाको माठ्यक्रम

प्रथम पत्र (Paper I): General Subject

1. General Awareness and Contemporary Issues

1.1 Physical, socio-cultural, and economic geography and demography of Nepal

1.2 Major natural resources of Nepal focused on Bagmati Province

1.3 Geographical diversity, climatic conditions, and livelihood & lifestyle of people

1.4 Notable events and personalities, social, cultural and economic conditions in modern history of Nepal

1.5 Current periodical plan of Nepal and Bagmati Province

1.6 Information on sustainable development, environment, pollution, climate change, biodiversity, science and technology, disaster risk & its management

1.7 Nepal's international affairs and general information on the UNO, SAARC & BIMSTEC

1.8 The Constitution of Nepal

1.9 Governance system of Nepal (Federal, Provincial and Local)

1.10 Civil service act and regulation (Federal, Bagmati province and Local level)

1.11 Corruption Control Act, 2059

1.12 Functional scope of public services delivery

1.13 Citizen Charter

1.14 Concept, objective, and importance of public policy

1.15 Fundamentals of management: planning, organizing, directing, controlling, coordinating, decision making, motivation and leadership

1.16 General information on Government planning, budgeting, and accounting system

1.17 Major events and current affairs of national and international importance including SDG

1.18 Local Government Operation Act, 2074 (related to local infrastructure development)

1.19 Province Good Governance (Management and Operation) Act, 2076

1.20 General information on Government Budgeting, Accounting and Auditing

1.21 Province Financial Procedure and Fiscal Accountability Act, 2078

2. Structural Engineering

2.1 Center of gravity, moment of inertia, radius of gyration

2.2 Stresses and strains, theory of torsion and flexure

2.3 Analysis of beams and frames: bending moment, shear force and deflection of beams and frames

2.4 Determinate structures (energy methods), three hinged systems, suspension cable system

2.5 Indeterminate structures:- slope deflection method and moment distribution method, use of influence line diagrams for simple beams, unit load method, two hinged arches

2.6 Plastic analysis of beam and frame

3. Engineering Survey

3.1 Introduction and basic principles, classification of surveys

3.2 Linear measurement techniques: chain and tape method, ranging rods and arrows, representation of measurement and common scales, sources of errors, effect of slope and slope correction, correction for chain and tape measurements, abney level, clinometers and GPS

3.3 Compass: types of compasses, problems and sources of errors in compass survey

3.4 Plane table surveying: principles and methods of plane tabling

3.5 Leveling: principle of leveling, temporary and permanent adjustment of level, benchmarks, booking methods and their recording, longitudinal and cross sectioning, reciprocal leveling, trigonometric leveling.

3.6 Contouring: contour interval and characteristics of contours, methods of contouring, interpolation, use of contour map

3.7 Theodolite traversing: need of traverse and its significance, principle of traverse, computation of coordinates; adjustment of closed traverse and linked traverse, closing errors.

3.8 Tacheometry: principle, tacheometric formula, relation of distance and elevation

3.9 Uses of total station and electronic distance measuring instruments and remote sensing, Geographical information system.

3.10 Curves: types and suitability, elements, geometry and setting out of curves (simple circular curve, vertical curve, transition curve)

3.11 Calculation of area and volume: methods of area calculation of land, methods of area and volume calculation of cut and fill, mass haul diagram

4. Construction Materials

4.1 Properties of building materials: physical, chemical, and thermal

4.2 Stones: characteristics and requirements of stones as a building material.

4.3 Ceramic materials: ceramic tiles, mosaic tile, brick types and testing

4.4 Cementing materials: types and properties of lime and cement; cement mortar tests

4.5 Metals: types and properties of steel, alloys

4.6 Timber and wood: timber trees in Nepal, types, and properties of wood

4.7 Miscellaneous materials: asphaltic materials (asphalt, bitumen, and tar), paints and varnishes, polymers

4.8 Local and modern building construction material available in Nepal

4.9 Soil properties and its properties

5. Concrete Technology

5.1 Constituents and properties of concrete (physical and chemical)

5.2 Water cement ratio

5.3 Grade and strength of concrete, concrete mix design, testing of concrete.

5.4 Mixing, transportation pouring and curing of concrete.

5.5 Admixtures

5.6 High strength concrete and its applications

5.7 pre-stressed concrete and its applications

6. Soil Mechanics and Geotechnical Engineering

6.1 Formation of soil, general classification of soil depending on transporting agent and deposit media

6.2 Three phases of soil: basic terms, relation between basic terms, volumetric relationship: mass and volume, weight and volume, specific gravity of soil and lab test, field density and determination methods

6.3 Types of water in soil, moisture content and relationship, organic content in soil

6.4 Index properties of soil: grain size distribution and types of soil depending on grain size distribution, consistency limit, relative density, lab test of index properties.

6.5 Types of rock, dip, strike, fold, fault, cleavage, geographical divisions of Nepal, earthquake: causes of earthquake, types of waves, grading of earthquake, seismic fault line in Nepal.

6.6 Tunneling: types of tunnels, component parts of a tunnel and tunnel cross section, survey for tunnel alignment, drainage, lighting and ventilation requirements for tunnels, method of tunneling in soft soils and rock.

7. Construction Management

7.1 Construction scheduling and planning: network techniques (CPM, PERT, MS etc.) and bar charts

7.2 Procurement Act and regulation (Federal and Bagmati Province), Prefeasibility, feasibility, detail Engineering survey and design, Contractual procedure and management: types of contracts, bid and bid notice, preparation of bidding document, e-bidding, contractors' pre-qualification, evaluation of tenders and selection of contractor, contract acceptance, condition of contract, quotation and direct purchase, classifications of contractors, dispute resolution, muster roll

7.3 Material management: procurement procedures and materials handling

7.4 Quality, Cost and Time Control

7.5 Project management

7.6 Occupational health and safety

7.7 Project monitoring and evaluation

7.8 Quality assurance plan, Quality circle and Total Quality Management

7.9 Variation, alteration, and omissions in construction Management

7.10 Participatory and integrated development approach on project planning and implementation

8. Estimating, Costing, Specification and Valuation

8.1 Types of estimates and their specific uses

8.2 Methods of calculating quantities

8.3 Norms, rates, and rate analysis

8.4 Preparation of bill of quantities

8.5 Purpose, types, and importance of specification

8.6 Purpose, principles, and methods of valuation

9. Engineering Drawing

9.1 Drawing sheet composition and its essential components

9.2 Suitable scales, site plans, preliminary drawings, working drawings

9.3 Theory of projection drawing: perspective, orthographic and axonometric projection, first and third angle projection

9.4 Drafting tools and equipment's

9.5 Drafting conventions and symbols

9.6 Topographic, electrical, plumbing, and structural drawings

9.7 Techniques of free hand sketching

9.8 Community buildings: School and hospital buildings and their design considerations

9.9 Computer application of drawing and modern tools like Auto CAD, Auto civil etc.

10. Engineering Economics

10.1 Benefit cost analysis, cost classification, sensitivity analysis, internal rate of return, time value of money; economic equilibrium, demand, supply and production, net present value, financial and economic evaluation

11. Professional Practices

11.1 Ethics, integrity, and professionalism: code of conduct and guidelines for professional engineering practice, The Prevention of Corruption Act 2059

11.2 Nepal Engineering Council Act, 2055; and regulations, 2056

11.3 Public Procurement Act and Regulation, Relation with clients, contractor, fellow professionals, and allied professionals, The Environment Protection Act (Federal and Provincial).

11.4 Public procurement practices for works, goods and services and its importance

11.5 National Building Code: Hierarchy of building codes and its application, procedure for implementation of building code in Nepal

11.6 Building Bylaws