

गरुडा नगरपालिका कर्मचारी छनौट समिति

गरुडा नगरपालिका,

गरुडा, रौतहट, मधेश प्रदेश

गरुडा नगरपालिकामा करारमा प्राविधिक कर्मचारी व्यवस्थापन सम्बन्धी कार्यविधि, २०७९ को दफा ४ को उपदफा (४) र (५) बमोजिम नगरपालिकाको कार्यालयमा सिभिल ईन्जिनियरिङ्ग समूह, सिभिल ईन्जिनियर छैठौ तह प्राविधिक कर्मचारी छनौटको लागि खुल्ला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम ।

- क. सिभिल ईन्जिनियरिङ्ग छैठौ तह पाठ्यक्रमको रूपरेखा : यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :
- प्रथम चरण : लिखित परीक्षा पूर्णाङ्क : १००
द्वितीय चरण : अन्तर्वार्ता पूर्णाङ्क : २५

प्रथम चरण

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या×अङ्कभार	समय
सेवा क्षेत्र सँग सम्बन्धित ७०% र सामान्य ज्ञान ३०%	१००	५०	वस्तुगत बहुवैकल्पिक	५० प्रश्न×२ अङ्क	६० मिनेट

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	२५	मौखिक

द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
- लिखित परीक्षामा यथा सम्भव निम्नानुसार प्रश्नहरू सोधिने छ ।

पाठ्यक्रमकाएकाइ	१	२	३	४	५	६	७	८	९	१०	११
प्रश्न संख्या	१५	५	२	३	५	४	३	३	४	३	३
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेकाकानून, ऐन, नियमतथानीतिहरू परीक्षाको विज्ञापन हुंदाका बखत (संशोधनभएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झन पर्दछ ।
- प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- उम्मेदवारले प्रथम चरण र द्वितीय चरणमा प्राप्त गरेको प्राप्ताङ्कहरू जोडी कूल अङ्कको आधारमा योग्यताक्रम प्रकाशित गरिनेछ ।
- पाठ्यक्रमलागू मिति : २०८१।०४।०७

प्रथम चरणको परीक्षाको लागि देहाय बमोजिमको पाठ्यक्रम हुनेछ ।

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
- 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
- 1.6 Information on sustainable development, environment, pollution, climate change, biodiversity, science and technology
- 1.7 The Constitution of Nepal (From Part 1 to 5 and Schedules)
- 1.8 Governance system and Government (Federal, Provincial and Local)
- 1.9 Public Service Charter
- 1.10 Concept, objective and importance of public policy
- 1.11 Fundamentals of management: planning, organizing, directing, controlling, coordinating, decision making, motivation and leadership
- 1.12 Government planning, budgeting and accounting system
- 1.13 Province and local level Relation
- 1.14 Budgeting system in local level
- 1.15 Power sharing in local level
- 1.16 Civil Service Act, 2049 and Civil Service Rules, 2050
- 1.17 Office management, Registration, letter writing, proposal writing etc
- 1.18 Local Government Operation Act, 2074
- 1.19 Garuda Municipality laws.

2. Engineering Survey

- 2.1 Introduction and basic principles, classification of surveys
- 2.2 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 and clinometers
- 2.3 Leveling: principle of leveling, temporary and permanent adjustment of level, bench marks, booking methods and their recording, longitudinal and cross sectioning, reciprocal leveling, trigonometric leveling
- 2.4 Contouring: contour interval and characteristics of contours, methods of contouring, interpolation, use of contour map
- 2.5 Theodolite traversing: need of traverse and its significance, principle of traverse, computation of coordinates; adjustment of closed traverse and linked traverse, closing errors
- 2.6 Tacheometry: principle, tacheometric formula, relation of distance and elevation
- 2.7 Uses of total station and electronic distance measuring instruments
- 2.8 Curves: types and suitability, elements, geometry and setting out of curves (simple circular curve, vertical curve, transition curve)
- 2.9 Calculation of area and volume: methods of area calculation of land, methods of area and volume calculation of cut and fill, mass haul diagram

3. Construction Materials

- 3.1 Properties of building materials: physical, chemical, constituents, thermal
- 3.2 Stones: characteristics and requirements of stones as a building materials
- 3.3 Ceramic materials: ceramic tiles, mosaic tile, brick types and testing
- 3.4 Cementing materials: types and properties of lime and cement; cement mortar tests
- 3.5 Metals: types and properties of steel, alloys
- 3.6 Timber and wood: timber trees in Nepal, types and properties of wood
- 3.7 Miscellaneous materials: asphaltic materials (asphalt, bitumen and tar), paints and varnishes, polymers
- 3.8 Soil properties and its parameters
- 3.9 Local and modern building construction material in Nepal

4. Concrete Technology

(Constituents And properties of concrete (physical and chemical))

- 4.1 Water cement ratio
- 4.2 Grade and strength of concrete, concrete mix design, testing of concrete
- 4.3 Mixing, transportation pouring and curing of concrete
- 4.4 Admixtures
- 4.5 High strength concrete
- 4.6 Pre-stressed concrete

5. Geotechnical/soil Engineering

- 5.1 Formation of soil, general classification of soil depending on transporting agent and deposit media
- 5.2 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
- 5.3 Types of water in soil, moisture content and relationship, organic content in soil
- 5.4 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
- 5.6 Types of rock, dip, strike, fold, fault, cleavage, geographical divisions of Nepal, earthquake: causes of earthquake, types of wave, grading of earthquake, seismic fault line in Nepal

6. Construction Management

- 6.1 Construction scheduling and planning: network techniques (CPM, PERT) and bar charts
- 6.2 Contractual procedure and management: types of contract, bid and bid notice, preparation of bidding document, 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
- 6.3 Material management: procurement procedures and material handling
- 6.4 Cost, quality and time control
- 6.5 Project management
- 6.6 Tender, Agreement, Tender Evaluation, Time extension
- 6.7 Public procurement Act 2063 & Regulation 2064

- 6.8 PPMO guide lines
- 6.9 Occupational health and safety
- 6.10 Project monitoring and evaluation
- 6.11 Quality assurance plan
- 6.12 Variation, alteration and omissions

7. Estimating, Costing, Specification and Valuation

- 7.1 Types of estimates and their specific uses
- 7.2 Methods of calculating quantities
- 7.3 Key components of estimating norms and rate analysis
- 7.4 Preparation of bill of quantities
- 7.5 Purpose, types and importance of specification
- 7.6 Purpose, principles and methods of valuation

8. Engineering Drawing

- 8.1 Drawingsheet composition and its essential components
- 8.2 Suitable scales, siteplans, preliminary drawings, working drawings
- 8.3 Theory of projection drawing: perspective, orthographic and axonometric projection, first and third angle projection
- 8.4 Drafting tools and equipments
- 8.5 Drafting conventions and symbols
- 8.6 Topographic, electrical, plumbing and structural drawings
- 8.7 Techniques of freehand drawing
- 8.8 Community buildings: School and hospital buildings and their design considerations
- 8.9 Drawing software, Design software and their application

9. Engineering Economics

- 9.1 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

10. Professional Practices

- 10.1 Ethics, integrity and professionalism: code of conduct and guidelines for professional engineering practices
- 10.2 Nepal Engineering Council Act, 2055; and regulations, 2056
- 10.3 Relation with clients, contractor and fellow professionals
- 10.4 Public procurement practices for works, goods and services and its importance
- 10.5 National Building Code: Hierarchy of building codes and its application, procedure for implementation of building code in Nepal
- 10.6 Building Bylaws, Municipal Bylaws their use & challenges

11. Building Construction Technology

- 11.1 Type of building & their suitability
- 11.2 Type of bond in brick Masonary Work
- 11.3 Type of Bricks and their use