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 ईन्जिनीर्यारिङ्ग समूह, सब ईन्जिनियर पाँचौ तह प्राविधिक कर्मचारी छनौटको लागि खुल्ला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम ।

ख. सब ईन्जिनीयर पाँचौ तह पाठ्यक्रमको रुपरेखा : यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :

प्रथम चरण :लिखित परीक्षा — पूर्णाङ्ग : १००

द्वितिय चरण :अन्तर्वार्ता — पूर्णाङ्ग : २५

प्रथम चरण

विषय	पूर्णाङ्ग	उत्तिर्णाङ्ग	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

द्वितिय चरण

विषय	पूर्णाङ्ग	परीक्षा प्रणाली
अन्तर्वार्ता	२५	मौखिक

द्रष्टव्य :

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजीदुवै हुन सक्नेछ ।

२. लिखित परीक्षामा यथा सम्भव निम्नानुसार प्रश्नहरु सोधिने छ ।

पाठ्यक्रमका एकाइ	१	२	३	४	५	६	७	८	९
प्रश्न सख्या	१५	४	६	३	४	५	६	४	३

३. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेकाकानून, ऐन, नियमतथानीतिहरु परीक्षाको विज्ञापन हुँदाका बखत (संशोधनभएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झन पर्दछ ।

४. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।

५. उम्मेदवारले प्रथम चरण र द्वितीय चरणमा प्राप्त गरेको प्राप्ताङ्कहरु जोडी कूल अङ्कको आधारमा योग्यताक्रम प्रकाशित गरिनेछ ।

६. 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 to5 and Schedules)
1.8 Governance system and Government (Federal, Provincialand 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 Provience and local level Relation
1.14 Budjeting 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. Estimating and Costing:

2.1 General

2.1.1 Unit of Measurement and Payment of Various Items
2.1.2 Estimate Formats of Governmental offices
2.1.3 Methods of Estimating
2.1.4 Different Items of works

2.2. Rate Analysis of works

2.2.1 Preparation of rate Analysis ,District Rate,Market rates of Materials
2.2.2 Basic use of Norms for Rate Analysis Preparation
2.2.3 Dor Norms,Dudbc Norms & NEA Norms

2.3. Specification writing

2.3.1 Types of specification,explanation of specifications
2.3.2 purpose of specification

2.4. Valuation

2.4.1 purpose of Valuation
2.4.2 Meathods of Valuation

3. Surveying:

3.1 General

3.1.1Principal of Surveying
3.1.2 Scale,Maps,Plan
3.1.3 Classification of Surveying

3.1.4 Field Book & their Entry

3.2 Thedolite & Tranvers Surveying:-

3.2.1 Basic difference between different theodolites

3.2.2 Temporary adjustments of theodolites

3.2.3 Fundamental lines and desired relations

3.2.4 Tacheometry: stadia method

3.2.5 Trigonometrical levelling

3.2.6 Checks in closed traverse

3.3 Levelling:-

3.3.1 Methods of levelling

3.3.2 Levelling instruments and accessories

3.3.3 Principles of levelling

3.4 Contouring:-

3.4.1 Characteristics of contour lines

3.4.2 Method of locating contours

3.4.3 Contour plotting

3.5 Setting Out:-

3.5.1 Small buildings

3.5.2 Simple curves

3.5.3 Culvert,pipe culvert,Causeway

4. Construction Materials:

4.1 Stone:-

4.1.1 Formation and availability of stones in Nepal

4.1.2 Methods of laying and construction with various stones

4.2 Cement:-

4.2.1 Different cements: Ingredients, properties and manufacture

4.2.2 Storage and transport

4.2.3 Admixtures

4.3 Clay and Clay Products

4.3.1 Brick: type, manufacture, laying, bonds

4.4 Paints and Varnishes

4.4.1 Type and selection

4.4.2 Preparation techniques

4.5 Bitumen

5. Building Construction Technology :

5.1 Foundations

5.1.1 Subsoil exploration

5.1.2 Type and suitability of different foundations: Shallow, deep

5.1.3 Shoring and dewatering

5.1.4 Design of simple brick or stone masonry foundations

5.2 Walls

5.2.1 Type of walls and their functions

5.2.2 Choosing wall thickness, Height to length relation

5.2.3 Use of scaffolding

5.3 Damp Proofing

5.3.1 Source of Dampness

5.3.2 Remedial measures to prevent dampness

5.4 Concrete Technology

5.4.1 Constituents of cement concrete
5.4.2 Grading of aggregates
5.4.3 Concrete mixes
5.4.4 Water cement ratio
5.4.5 Factors affecting strength of concrete
5.4.6 Form work
5.4.7 Curing

5.5 Wood work

5.5.1 Frame and shutters of door and window
5.5.2 Timber construction of upper floors
5.5.3 Design and construction of stairs

5.6 Flooring and Finishing

5.6.1 Floor finishes: brick, concrete, flagstone

6. Highway Engineering:

6.1 General

61.1 Introduction to transportation systems
6.1.3 Classification of road in Nepal
6.1.4 Basic requirements of road alignment

6.2 Geometric Design

6.2.1 Basic design control and criteria for design
6.2.2 Elements of cross section, typical cross-section for all roads in filling and cutting
6.2.3 Camber
6.2.4 Determination of radius of horizontal curves
6.2.5 Super elevation
6.2.6 Sight distances
6.2.7 Gradient
6.2.8 Use of Nepal Road Standard and subsequent revision in road design

6.4 Road Pavement

6.4.1 Pavement structure and its components: subgrade, sub-base, base and surface courses

6.5 Road Machineries

7. Construction Management:

7.1 Organization

7.1.1 Need for organization
7.1.2 Responsibilities of a civil sub-engineer
7.1.3 Relation between Owner, Contractor and Engineer

7.2 Site Management

7.2.1 Preparation of site plan
7.2.2 Organizing labor
7.2.3 Measures to improve labor efficiency
7.2.4 Accident prevention

7.3 Contract Procedure

7.3.1 Contracts
7.3.2 Force account and day- works
7.3.3 Types of contracts
7.3.4 Tender and tender notice
7.3.5 Bid security

7.3.6 Preparation before inviting tender
7.3.7 Agreement
7.3.8 Conditions of contract
7.3.9 Construction supervision

7.4 Accounts

7.4.1 Administrative approval and technical sanction
7.4.3 Muster roll

7.5 Public procurement Act 2063 and Regulation 2064

8. Geotechnical Engineering:

8.1 General

8.1.1 Soil types and classification
8.1.2 Three phase system of soil
8.1.3 Unit Weight of soil mass: bulk density, saturated density, submerged density and dry density

8.2 Soil Water Relation

8.2.3 Factors affecting permeability

8.3 Compaction of soil

8.3.1 Factors affecting soil compaction
8.3.2 Optimum moisture content
8.3.3 Relation between dry density and moisture content

9. Structure Engineering :

9.1 R.C. Sections in Bending

9.1.1 Under reinforced, over reinforced and balanced sections
9.1.2 Analysis of single and double reinforced rectangular sections
9.2.2 Types of Shear reinforcement and their design
9.2.3 Determination of anchorage length

9.3 Axially Loaded R.C. Columns

9.3.1 Short and long columns
9.3.2 Design of a rectangular column section

9.4 Design and Drafting of R.C. Structures

9.4.1 Singly and doubly reinforced rectangular beams
9.4.2 Simple one-way and two-way slabs
9.4.3 Axially loaded short and long columns