

अनुसूची -५

(दफा ७(२) सँग सम्बन्धित)

प्राविधिक सहायकको पाठ्यक्रम

खण्ड- १ सेवा सम्बन्धी

क) प्रशासन सम्बन्धी -१० अंक

समय: १ घण्टा

१. प्रधानमन्त्री रोजगार कार्यक्रम संचालन निर्देशिका, २०७५, कामका लागि पारिश्रमिकमा आधारित सामूदायिक आयोजनां सञ्चालन तथा व्यवस्थापन कार्यविधि, २०७६ र युवा रोजगारीका लागि स्थानान्तरण पहल आयोजना (सञ्चालन तथा व्यवस्थापन) कार्यविधि, २०७६,
२. कामका लागि पारिश्रमिक (Cash for Work) को अवधारणा,
३. सामाजिक परिचालन, सार्वजनिक सुनुवाई, सामाजिक लेखापरीक्षण तथा गुनासो व्यवस्थापन,
४. स्थानीय तहको बजेट तर्जुमा प्रकृया, खर्च व्यवस्थापन र लेखा परीक्षण,
५. आचरण तथा अनुशासन र सुशासन।

ख) प्राविधिक कार्य सम्बन्धी परीक्षा- ४० अंक

1. Surveying

1.1 Levelling

- 1.1.1 Principles and methods of levelling
- 1.1.2 Levelling instruments and accessories

1.2 Plane Tabling

- 1.2.1 Equipments required
- 1.2.2 Methods of plane tabling
- 1.2.3 Two and three point problems

2. Construction Materials

2.1 Stone

- 2.1.1 Formation and availability of stones in Nepal
- 2.1.2 Methods of laying and construction with various stones
- 2.2 Cement
- 2.2.1 Different cements: Ingredients, properties and manufacture
- 2.2.2 Storage and transport

- 2.2.3 Admixtures
- 2.3 Clay and Clay Products
 - 2.3.1 Brick: type, manufacture, laying, bonds
- 2.4 Paints and Varnishes: Type and selection; preparation techniques and use
- 2.5 Bitumen: Type, selection and use

3. Mechanics of Materials and Structures

- 3.1 Mechanics of Materials
 - 3.1.1 Internal effects of loading
 - 3.1.2 Ultimate strength and working stress of materials
- 3.2 Mechanics of Beams
 - 3.2.1 Relation between shear force and bending moment
 - 3.2.2 Shear and bending moment diagrams for statically determinate beams under various types of loading
- 3.3 Simple Strut Theory

4. Hydraulics

- 4.1 General
 - 4.1.1 Properties of fluid: mass, weight, specific weight, density, specific volume, specific gravity, viscosity
 - 4.1.2 Pressure and Pascal's law
- 4.2 Hydro-Kinematics and Hydro-Dynamics
 - 4.2.1 Energy of flowing liquid: elevation energy, Kinetic energy, potential energy, internal energy
- 4.3 Measurement of Discharge
 - 4.3.1 Weirs and notches
 - 4.3.2 Discharge formulas
- 5.4 Flows: Characteristics of pipe flow and open channel flow

5. Soil Mechanics

- 5.1 General
 - 5.1.1 Soil types and classification
 - 5.1.2 Three phase system of soil
 - 5.1.3 Unit Weight of soil mass: bulk density, saturated density, submerged density and dry density

5.1.4 Interrelationship between specific gravity, void ratio, porosity, degree of saturation, percentage of air voids air content and density index

5.2 Soil Water Relation

5.2.1 Terzaghi's principle of effective stress

5.2.2 Darcy's law

5.2.3 Factors affecting permeability

5.3 Compaction of soil

5.3.1 Factors affecting soil compaction

5.3.2 Optimum moisture content

5.3.3 Relation between dry density and moisture content

5.4 Shear Strength of Soils

5.4.1 Mohr-Coulomb failure theory

5.4.2 Cohesion and angle of internal friction

5.5 Earth Pressures

5.5.1 Active and passive earth pressures

5.5.2 Lateral earth pressure theory

5.5.3 Rankine's earth pressure theory

6. Structures

6.1 R.C. Sections in Bending

6.1.1 Under reinforced, over reinforced and balanced sections

6.1.2 Analysis of single and double reinforced rectangular section

6.2 Shear and Bond for R.C. Sections

6.2.1 Shear resistance of a R.C. section

6.2.2 Types of Shear reinforcement and their design

6.2.3 Determination of anchorage length

6.3 Design and Working System of R.C. Structures

6.4.1 Singly and doubly reinforced rectangular beams

6.4.2 Simple one-way and two-way slabs

6.4.3 Axially loaded short and long columns

7. Building Construction Technology

7.1 Foundations

7.1.1 Subsoil exploration

7.1.2 Type and suitability of different foundations: Shallow, deep

7.1.3 Shoring and dewatering

7.1.4 Design of simple brick or stone masonry foundations 7.2 Walls

7.2.1 Type and thickness of walls

7.2.2 Use of scaffolding

7.3 Damp Proofing

7.3.1 Source of Dampness

7.3.2 Remedial measures for damp proofing

7.4 Concrete Technology

7.4.1 Constituents of cement concrete

7.4.2 Grading of aggregates

7.4.3 Concrete mixes

7.4.4 Water cement ratio

7.4.5 Factors affecting strength of concrete

7.4.6 Form work

7.4.7 Curing

7.5 Wood work

7.5.1 Frame and shutters of door and window

7.5.2 Timber construction of upper floors

7.5.3 Design and construction of stairs

7.6 Flooring and Finishing

7.6.1 Floor finishes: brick, concrete, flagstone

7.6.2 Plastering

8. Water Supply and Sanitation Engineering

8.1 General

8.1.1 Objectives of water supply system

8.1.2 Source of water and its selection: gravity and artisan springs, shallow and deep wells; infiltration galleries

8.2 Gravity Water Supply System

8.2.1 Design period

8.2.2 Determination of daily water demand

8.2.3 Determination of storage tank capacity

8.2.4 Selection of pipe

8.2.5 Pipe line design and hydraulic grade line

8.3 Design of Sewer

- 8.3.1 Quantity of sanitary sewage
- 8.3.2 Maximum, Minimum and self cleaning velocity

8.4 Excreta Disposal and Unsewered Area

- 8.4.1 Pit latrine
- 8.4.2 Design of septic tank

9 . Irrigation Engineering

9.1 General

- 9.1.1 Need for irrigation; advantages of irrigation
- 9.1.2 Sources of irrigation: water, river & streams, ground water and others
- 9.1.3 Methods of irrigation: surface, sub-surface and others

9.2 Irrigation Water Requirement

- 9.2.1 Crop season, principal crops, and crop water requirements
- 9.2.2 Base period & duty

9.3 Irrigation Canals

- 9.3.1 Canal losses and their minimization
- 9.3.2 Irrigation requirements and design discharge of canal permissible velocities for different canals
- 9.3.3 Design of canal based on Manning's & Lacey's formulae
- 9.3.4 Need and location of escapes
- 9.3.5 Components of distribution system

10. Highway Engineering

10.1 General

- 10.1.1 Classification of road in Nepal
- 10.1.2 Basic requirements of road alignment

10.2 Geometric Design

- 10.2.1 Basic design control and criteria for design
- 10.2.2 Elements of cross section, typical cross-section for all roads in filling and cutting
- 10.2.3 Camber
- 10.2.4 Determination of radius of horizontal curves
- 10.2.5 Super elevation

- 10.2.6 Sight distances
- 10.2.7 Gradient
- 10.2.8 Use of Nepal Road Standard and subsequent revision in road design
- 10.3 Drainage System
 - 10.3.1 Importance of drainage system and requirements of a good drainage system
- 10.4 Road Pavement: Pavement structure and its components: subgrade, sub-base, base and surface courses
- 10.5 Road Machineries
 - 10.5.1 Earth moving and compacting machines
- 10.6 Road Construction Technology
- 10.7 Road Maintenance and Repair: Type of maintenance works
- 10.9 Tracks and Trails

11. Estimating and Costing

- 11.1 General
 - 11.1.1 Main items of work
 - 11.1.2 Units of measurement and payment of various items of work and material
 - 11.1.3 Standard estimate formats of government offices
- 11.2 Rate Analysis
 - 11.2.1 Basic general knowledge on the use of rate analysis norms prepared by Ministry of Works and Transport and the district rates prescribed by district development committee
- 11.3 Specifications
 - 11.3.1 Interpretation of specifications
- 11.4 Valuation
 - 11.4.1 Methods of valuation
 - 11.4.2 Basic general knowledge of standard formats used by commercial banks and NIDC for valuation

12. Construction Management

- 12.1 Site Management
 - 12.1.1 Preparation of site plan
 - 12.1.2 Organizing labor
 - 12.1.3 Measures to improve labor efficiency
 - 12.1.4 Accident prevention

12.2 Procurement and Contract Procedure

- 12.2.1 Contracts and its types
- 12.2.2 Departmental works and day-work
- 12.2.3 Preparation of tender document
- 12.2.4 Tender procedure
- 12.2.5 Contract agreement
- 12.2.6 Conditions of contract
- 12.2.7 Construction supervision

12.3 Planning and Control

- 12.3.1 Construction schedule
- 12.3.2 Equipment and materials schedule
- 12.3.3 Construction stages and operations

खण्ड-२: कम्प्युटर सम्बन्धी प्रयोगात्मक परीक्षा -५० अङ्क

समय: ३० मिनेट

1. Computer fundamental
2. Operating System
3. Word processing
4. Electronic spreadsheet
5. Database management system
6. Presentation system
7. Internet Browsing & Website Management.



रत्ननगर नगरपालिका

नगर कार्यपालिकाको कार्यालय

अनुसूची

रत्ननगर, चितवन

(दफा बारषिती प्रदेश संगमेपाल वजन्त्धत)

कार्यसम्पादन मूल्याङ्कन

प्राविधिक सहायकको चौमासिक कार्य सम्पादन मूल्याङ्कन फाराम

मूल्याङ्कनको अवधि देखि सम्म

विवरण पेश गरेको कार्यालय गाउँ कार्यपालिका/नगर कार्यपालिका

दर्ता नं..... मिति:

प्राविधिक सहायकको नाम :

नियुक्ति मिति :

रोजगार संयोजक समक्ष पेश गरेको मिति:

प्राविधिक सहायकले भर्ने

कार्य विवरण र वार्षिक कार्यक्रम बमोजिमका कार्यहरू	चौमासिक लक्ष्य	सम्पादित कार्यको प्रगति	लक्ष्य अनुसार कार्य सम्पन्न हुन नसकेका भए सो को कारण	कैफियत
क्र.	सार्वजनिक रोजगारी सिर्जनाका लागि स्थानीय तहलाई सहयोग गर्ने			
ख.	सार्वजनिक पूर्वाधार मार्फत रोजगारी सिर्जनाका लागि पूर्वसम्भाव्यता, सम्भाव्यता, डिजाइन, विस्तृत लागत अनुमान र अन्तिम मूल्याङ्कन गर्ने			



रत्ननगर नगरपालिका

तार सरकार्यपालिकाको कार्यालय

आयोजनाको प्राविधिक अनुगमन
रत्ननगर, चितवन
तथा सुपरीवेक्षण गरी तोकिएको बागमती प्रदेश, नेपाल

गुणस्तर कायम गर्ने

८०	रोजगार आयोजना सञ्चालनका लागि श्रमिक तथा रोजगार उपभोक्ता समितिलाई रोजगार आयोजनाको प्राविधिक पक्षमा अभिमुखिकण प्रदान गर्ने।			
९०	लाभग्राहीको हाजिरी राख्न लगाउने र ज्यालाको भुक्तानी वैद्व मार्फत गर्न सहजिकरण गर्ने			
१००	वार्षिक आर्थिक योजना र बजेट निर्माण प्रक्रिया, योजनाको समीक्षा, तथा रोजगारमूलक योजना छनौटमा सहयोग गर्ने			
११०	आवश्यकता अनुसार रोजगार आयोजनाहरूको स्थलगत अनुगमन गरी प्रतिवेदन पेश गर्ने			
१२०	जीवनोपयोगी सीप विकास तालिमकर्तालाई कामदार/प्रशिक्षार्थीहरूको संख्या,			



रत्ननगर नगरपालिका

तालिमस्थल नगर कार्यपालिकाको कार्यालय

केन्द्रको छामोट र
रत्ननगर, चितवन
लाभग्राही/प्रशिक्षार्थीहरुलाई बागमती प्रदेश, नेपाल

तालिमको मिति र स्थानको

जानकारी उपलब्ध गराउने

झ०	आयोजना व्यवस्थापन एकाई मार्फत सञ्चालन गरिएको तालिमको गुणस्तर तोकिएको मापदण्ड बमोजिम भएको सुनिश्चित गर्ने			
ज०	रोजगार संयोजक र रोजगार सहायकसंग समन्वयमा तालिम तथा सो सम्बन्धी विवरण रोजगार व्यवस्थापन सूचना प्रणालीमा प्रविष्टि गर्ने			
	आफै पहलमा गरेका अन्य कार्यहरु			
क.				
ख.				

प्राविधिक सहायकको दस्तखत:

मिति:.....

रोजगार संयोजकले भर्ते :

प्राप्ताङ्क	अङ्कमा	अक्षरमा	
सुपरीवेक्षण अवधि			

रोजगार संयोजकको नाम:

मिति:

दस्तखतः

प्रमुख प्रशासकीय अधिकृतले भर्ते :

प्राप्ताङ्क	अङ्कमा	अक्षरमा	
सुपरीवेक्षण अवधि			

प्रमुख प्रशासकीय अधिकृतको नाम:

मिति:

पद/श्रेणी:

कर्मचारी संकेत नं.:

दस्तखतः