



दिप्रुङ चुईचुम्मा गाउँपालिका  
गाउँ कार्यपालिकाको कार्यालय

याङसोलाटार खोटाङ  
Diprung chuichumma Rural Municipality  
Office of the Rural Municipal Executive  
Yangsolatar Khotang

प.सं : ०७७/०७८  
च.नं. :

प्रदेश नं. १, नेपाल  
मिति : २०७७/१२/१२

प्रधानमन्त्री रोजगार कार्यक्रम अन्तर्गत

प्राविधिक सहायक पदको परीक्षा सञ्चालन सम्बन्धि सूचना ।

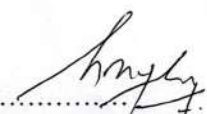
प्रस्तुत विषयमा यस गाउँपालिकाको लागि प्रधानमन्त्री रोजगार कार्यक्रम अन्तर्गत करार सेवामा प्राविधिक सहायक पदमा पदपूर्तीको लागि मिति २०७७/११/१७ गते खोटाङ टुडे नेपाली राष्ट्रिय दैनिक पत्रिकामा आह्वान गरिएको दरखास्त सूचना बमोजिम पेश हुन आएका उमेदवारहरुको शैक्षिक योग्यता र कार्य अनुभव सम्बन्धि कागजातहरुको आधारमा गाउँपालिका तथा नगरपालिकामा प्राविधिक सहायक पदपूर्ति सम्बन्धि प्रक्रिया को दफा ४ अनुसार संक्षिप्त सूचीमा परेका उमेदवारहरुको परीक्षा ( लिखित र अन्तरवार्ता ) तपसिलको मिति, समय र स्थानमा हुने भएकाले सम्बन्धित सबैमा जानकारीको लागि यो सूचना प्रकाशित गरिएको छ । साथै परीक्षाको पाठ्यक्रम यसै सूचना साथ संलग्न राखी प्रकाशन गरिएको छ ।

तपसिल :

मिति : २०७७/१२/१९

समय : विहान ११:०० बजे

स्थान : दिप्रुङ चुईचुम्मा गाउँपालिकाको कार्यालय याङसोलाटार, खोटाङ ।

  
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भीम प्रसाद दाहाल  
प्रमुख प्रशासकीय अधिकृत

**भीम प्रसाद दाहाल**  
प्रमुख प्रशासकीय अधिकृत

"हामी दिप्रुङ चुईचुम्माली, ल्याउछौं समृद्धि अनि खुशियाली "

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## परिशिष्ट:-४

(दफा-५(५) सँग सम्बन्धित)

प्राविधिक सहायकको पाठ्यक्रम

### **(क) सेवा सम्बन्धी**

#### खण्ड-१:- प्रशासनिक कार्य सम्बन्धी

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

#### खण्ड-२:- प्राविधिक कार्य सम्बन्धी

- स्थानीय सेवाको इन्जिनियरिङ सेवा, सिभिल समूह पाँचौ तह सब-इन्जिनियर पदको लोकसेवा आयोगले निर्धारण गरेको देहाय बमोजिमको पाठ्यक्रमका विषयवस्तुहरु:

### **1. Surveying**

#### **1.1 General**

- 1.1.1 Principle and types of surveying
- 1.1.2 Units, scales and maps
- 1.1.3 Field books and Level books

#### **1.2 Levelling**

- 1.2.1 Principles and methods of levelling
- 1.2.2 Levelling instruments and accessories

#### **1.3 Plane Tabling**

- 1.3.1 Equipments required
- 1.3.2 Methods of plane tabling
- 1.3.3 Two and three point problems

#### 1.4 Theodolite and Traverse surveying

- 1.4.1 Basic difference between different theodolites
- 1.4.2 Temporary adjustments of theodolites
- 1.4.3 Fundamental lines and desired relations
- 1.4.4 Tacheometry: stadia method
- 1.4.5 Trigonometrical levelling
- 1.4.6 Checks in closed traverse

#### 1.5 Contouring

- 1.5.1 Characteristics of contour lines
- 1.5.2 Method of locating contours
- 1.5.3 Contour plotting

#### 1.6 Setting Out: Small buildings and Simple curves

### 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 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

### 4.4 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

## 5.6 Foundation Engineering

5.6.1 Terzaghi's general bearing capacity formulas and their application

## 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 sections 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 Introduction to transportation systems
- 10.1.2 Historic development of roads
- 10.1.3 Classification of road in Nepal
- 10.1.4 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 Superlevation
- 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 Bridge: T-beam bridge and Timber bridges

### 10.8 Road Maintenance and Repair: Type of maintenance works

### 10.9 Tracks and Trails

### 10.10 Airport Engineering: Planning and layout of Heliports; Terminal Building and Control Tower; Drainage System for Airports

## 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 Organization

12.1.1 Need for organization

12.1.2 Responsibilities of a civil Sub-engineer

12.1.3 Relation between Owner, Contractor and Engineer



## 12.2 Site Management

12.2.1 Preparation of site plan

12.2.2 Organizing labor

12.2.3 Measures to improve labor efficiency

12.2.4 Accident prevention

## 12.3 Procurement and Contract Procedure

12.3.1 Contracts and its types

12.3.2 Departmental works and day-work

12.3.3 Preparation of tender document

12.3.4 Tender procedure

12.3.5 Contract agreement

12.3.6 Conditions of contract

12.3.7 Construction supervision

## 12.4 Accounts

12.4.1 Administrative approval and technical sanction

12.4.2 Familiarity with standard account keeping formats used in governmental organizations

12.4.3 Muster roll

12.4.4 Completion report

## 12.5 Planning and Control

12.5.1 Construction schedule

12.5.2 Equipment and materials schedule

12.5.3 Construction stages and operations

12.5.4 Bar chart

### (ख) कम्प्युटर सम्बन्धी

1. Computer fundamental

2. Operating System

3. Word processing

4. Electronic spreadsheet

5. Database management system

6. Presentation system