

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 आयोजना सञ्चालन तथा व्यवस्थापन कार्यविधि, २०७६ र युवा रोजगारीका लागि रुपान्तरण पहल आयोजना (संचालन 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

1.2.2 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

2.2.1 Different cements: Ingredients, properties and manufacture

2.2.2 Storage and transport

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 Woodwork
 - 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

- 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.