

१. पदको विवरण

पदको नाम :	इञ्जिनियर (सिभिल)
सेवा :	प्राविधिक
समूह :	इञ्जिनियरिड
उपसमूह :	सिभिल
तह :	७ (सात)

२. आवश्यक न्यूनतम शैक्षिक योग्यता

मान्यता प्राप्त शिक्षण संस्थाबाट सिभिल इञ्जिनियरिडमा स्नातक (बिई) उपाधि प्राप्त गरेको ।

३. परीक्षा योजना र पाठ्यक्रम

परीक्षाको किसिम लिखित र अन्तर्वार्ता हुनेछ । पूर्णाङ्क १०० को लिखित परीक्षा र पूर्णाङ्क २० को अन्तर्वार्ता निम्नानुसारका चरणमा लिइने छ ।

परीक्षा योजना (Examination Scheme)

प्रथम चरण :- लिखित परीक्षा (Written Examination)					पूर्णाङ्क :- १००	
पत्र /विषय	पूर्णाङ्क	उतीर्णाङ्क	परीक्षा प्रणाली		प्रश्नसंख्या X अङ्क	समय
व्यवस्थापन, सान्दर्भिक कानून र सेवा सम्बन्धी	१००	४०	विषयगत	छोटो उत्तर लामो उत्तर	४ प्रश्न X ५ अङ्क ८ प्रश्न X १० अङ्क	३ घण्टा
द्वितीय चरण :- अन्तर्वार्ता (Interview)					पूर्णाङ्क :- २०	
व्यक्तिगत अन्तर्वार्ता	२०		मौखिक			

द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
- प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरू मात्र द्वितीय चरणको परीक्षामा सम्मिलित हुन पाउनेछन् ।

प्राविधिक सेवा, इञ्जिनियरिङ समूह, सामान्य इञ्जिनियरिङ उपसमूह, ७ (सात) तह, सिभिल इञ्जिनियर पदको
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

पत्र/विषय :- व्यवस्थापन र सान्दर्भिक कानून र सेवा सम्बन्धी

खण्ड (क) - व्यवस्थापन (१०अङ्क)

१. विश्वमा टेलिभिजन प्रविधि तथा प्रसारण विकासक्रम
२. नेपालमा टेलिभिजन प्रसारणको इतिहास
३. नेपाल टेलिभिजनको स्थापनाको उद्देश्य, वर्तमान अवस्था र संगठनात्मक स्वरूप
४. सार्वजनिक प्रसारण सेवा (Public Broadcasting Service) र त्यसका विशेषताहरू
५. प्रसारण व्यवस्थापन (Broadcasting Management) को महत्व र आवश्यकता
६. आधुनिक व्यवस्थापनको अवधारणा तथा व्यवस्थापनमा निर्देशन, नियन्त्रण, समन्वय, निर्णय प्रक्रिया, उत्प्रेरणा र नेतृत्व सम्बन्धी जानकारी
७. कुशल व्यवस्थापकका कार्य र गुणहरू

खण्ड (ख) - सान्दर्भिक कानून (१०अङ्क)

१. नेपालको वर्तमान संविधान (मौलिक हक, राज्यका नीति र निर्देशक सिद्धान्तहरू, सरकारका तहहरू र तिनको कार्यक्षेत्र, सम्बैधानिक अंगहरू)
२. नेपाल टेलिभिजनको कर्मचारी सेवा शर्त विनियमावली, २०६६ (संशोधन सहित)
३. नेपाल टेलिभिजनको प्रचलित आर्थिक प्रशासन सम्बन्धी विनियमावली
४. राष्ट्रिय प्रसारण ऐन, २०४९
५. राष्ट्रिय प्रसारण नियमावली, २०५२ (संशोधन सहित)
६. सञ्चार संस्थान ऐन, २०२८
७. राष्ट्रिय आमसञ्चार नीति, २०७३
८. सूचना तथा सञ्चार प्रविधि नीति, २०७२
९. सार्वजनिक खरिद ऐन, २०६३
१०. सार्वजनिक खरिद नियमावली, २०६४
११. भ्रष्टाचार निवारण ऐन, २०५९

खण्ड (ग) - सेवा सम्बन्धी (८० अङ्क)

1. Structural Analysis and Design

- 1.1 Stress and strain; theory of torsion and flexure; moment of inertia
- 1.2 Analysis of beams and frames: bending moment, shear force and deflection of beams and frames; three hinged systems, indeterminate structures-slope deflection method and moment distribution method; use of influence line diagrams for simple beams, unit load method
- 1.3 Reinforced concrete structure: Analysis of RC beams and slabs in bending, shear, deflection, bond and end anchorage; Design of axially loaded columns; isolated and combined footings, introduction to pre-stressed concrete
- 1.4 Steel and timber structures: Standard and built-up sections - Design of riveted, bolted and welded connections, design of simple elements such as ties, struts, axially loaded and eccentric columns bases; Design principles on timber beams and columns

2. Construction Materials

- 2.1 Properties of building materials: physical, chemical, constituents, thermal
- 2.2 Stones – characteristics and requirements of stones as a binding materials
- 2.3 Ceramic materials: ceramic tiles, mosaic tile, brick types and testing
- 2.4 Cementing materials: types and properties of lime and cement; cement mortar tests
- 2.5 Metals: Steel; types and properties ; Alloys
- 2.6 Timber and wood: timber trees in Nepal ,types and properties of wood
- 2.7 Miscellaneous materials: Asphaltic materials (Asphalt, Bitumen and Tar); paints and varnishes; polymers
- 2.8 Soil properties and its parameters

3. Concrete Technology

- 3.1 Constituents and properties of concrete (physical and chemical)
- 3.2 Water cement ratio
- 3.3 Grade and strength of concrete, concrete mix design, testing of concrete
- 3.4 Admixtures
- 3.5 High strength concrete
- 3.6 Pre-stressed concrete technology

4. Construction Management

- 4.1 Construction scheduling and planning: networks techniques(CPM,PERT) and bar charts
- 4.2 Contractual procedure and management: types of contract, tender and tender notice, preparation of binding (tender) document, contractors pre-qualification, evaluation of tenders and selection of contractor, contract acceptance, condition of contract; quotation and direct order ,classification of contractors; dispute resolution; muster roll
- 4.3 Material management: procurement procedures and materials handling
- 4.4 Quality Control Plan, Cost Control and Quality Control Mechanisms
- 4.5 Project maintenance
- 4.6 Occupational health and safety
- 4.7 Project monitoring and evaluation
- 4.8 Technical Auditing
- 4.9 Variation, alteration and omissions

5. Soil Mechanics and Foundations

- 5.1 Soil characteristics, soil properties, classifications, effective stresses, permeability and well hydraulics
- 5.2 Compressibility, consolidation and compaction
- 5.3 Earth pressure theories
- 5.4 Terzaghi's bearing capacity theories and their applications
- 5.5 Water-water relationship

6. Drawing Techniques

- 6.1 Drawing sheet composition and its essential components
- 6.2 Suitable scales, site plans, preliminary drawings, working drawings
- 6.3 Theory of projection drawing: perspective, orthographic and axonometric projection; first and third angle projection
- 6.4 Drawing tools and equipments
- 6.5 Drafting conventions and symbols
- 6.6 Topographic, electric, plumbing and structural drawings
- 6.7 Techniques of free hand drawing

7. Estimating and Costing Valuation and Specification

- 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 Survey

- 8.1 Introduction and basic principles
- 8.2 Linear measurements: techniques; chain, tape, ranging rods and arrows; representation of measurements and common scales; sources of errors; effect of slop and slope correction; correction for chain and tape measurements; Abney level and clinometers
- 8.3 Compass and plane table surveying: bearings; types of compass; problems and sources of errors of compass survey; principles and methods of plane tabling
- 8.4 Leveling and contouring : principle of leveling; temporary and permanent adjustment of level; bench marks; booking methods and their reductions; longitudinal and cross sectioning; reciprocal leveling; trigonometric leveling; contour interval and characteristics of contours; method of contouring
- 8.5 Theodolite traversing :need of traverse and its significance; computation of coordinates; adjustment of closed traverse ;closing errors
- 8.6 Use of Total Station and Electronic Distance Measuring Instruments

9. Housing, Building and Urban Planning

- 9.1 Present status and practices of building construction in Nepal
- 9.2 Specific considerations in design and construction of buildings in Nepal
- 9.3 Indigenous technology in building design and construction
- 9.4 Local and modern building construction material in Nepal
- 9.5 Community buildings and their design considerations
- 9.6 Urban planning needs and challenges in Nepal

10. Technology, Environment and Civil Society

- 10.1 Technological development in Nepal

- 10.2 Promotion of local technology and its adaptation
- 10.3 Concept of Environmental Assessment
- 10.4 Initial Environmental Examination (IEE)
- 10.5 Environmental Impact Assessment (EIA), role of EIA
- 10.6 Types of Environmental Impacts, and EIA principles
- 10.7 Government rules and Regulation and procedures for EIA
- 10.8 Types of sources of pollution: point/non-point (for air and water)
- 10.9 Social mobilization in local infrastructure development and utilization in Nepal
- 10.10 General concept of global climate change phenomenon

11. Engineering Economics

- 11.1 Benefit cost analysis, cost classification, sensitivity analysis, internal rate of return, time value of money
- 11.2 Economic equilibrium, demand, supply and production, net present value, financial and economic evaluation

12. Engineering Professional Practices

- 12.1 Ethics and professionalism: code of conduct and guidelines for professional engineering practices
- 12.2 Relation with clients, contractor and fellow professionals
- 12.3 Public procurement practices for works, goods and services and its importance

द्रष्टव्य : यस पत्रमा लिखित परीक्षामा यथासम्भव पाठ्यक्रममा भएका सबै पाठ्यांशहरूबाट निम्नानुसार प्रश्नहरू सोधिनेछ ।

खण्ड	विषयगत	अङ्कभार
खण्ड (क) - व्यवस्थापन	२ प्रश्न X ५ अङ्क = १०	१०
खण्ड (ख) - सान्दर्भिक कानून	२ प्रश्न X ५ अङ्क = १०	१०
खण्ड (ग) - सेवा सम्बन्धी	८ प्रश्न X १० अङ्क = ८०	८०
जम्मा अङ्क		१००