



## कृषि विकास बैंक लि.

खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

### पदको विवरण

पद : सिभिल इन्जिनियर

सेवा/समूह/उपसमूह : प्राविधिक, इन्जिनियरिङ्ग, सिभिल

तह : ६ (छ)

### परीक्षाको किसिम:

(क) : लिखित परीक्षा : २०० पूर्णाङ्क

(ख) : अन्तर्वार्ता : ३० पूर्णाङ्क

### न्यूनतम शैक्षिक योग्यता:

मान्यता प्राप्त विश्व विद्यालयबाट सिभिल इन्जिनियरिङ्ग विषयमा स्नातक तह उत्तिर्ण गरी नेपाल इन्जिनियरिङ्ग काउन्सिलमा दर्ता भई प्रमाणपत्र प्राप्त गरेको।

### पाठ्यक्रमको उद्देश्य:

बैंकको सिभिल इन्जिनियर प्राविधिक, सिभिल इन्जिनियरिङ्ग तह-६ पदका लागि निर्धारित कार्य-विवरणलाई दृष्टिगत गरी तोकिएको आवश्यक न्यूनतम योग्यता पुगेका योग्य उम्मेदवारहरु मध्येबाट बैंकको सिभिल इन्जिनियरिङ्ग कार्य सम्पादनका लागि बैंकको कार्यक्षेत्र र कार्य प्रकृतिसँग सम्बन्धित निर्माण, मर्मत सम्भार तथा अन्य बैंकिङ्ग कारोवार संचालन जस्ता सान्दर्भिक विषयमा उम्मेदवारहरुको सैद्धान्तिक र व्यावहारिक ज्ञानको परीक्षण गर्नु प्रस्तुत पाठ्यक्रमको उद्देश्य रहेको छ।

### लिखित परीक्षाको संरचना:

सि.नं.	पत्र	विषय	खण्ड	प्रश्न प्रकृति	प्रश्न संख्या	अंक	अंकभार	पूर्णाङ्क	उत्तीर्णाङ्क	समय
१	प्रथम पत्र	कानून, बैंकिङ्ग, व्यवस्थापन तथा आर्थिक सम्बन्धी	क	छोटो उत्तर	४	५	२०	१००	४०	३ घण्टा
				लामो उत्तर	३	१०	३०			
			ख	छोटो उत्तर	४	५	२०			
				लामो उत्तर	३	१०	३०			
२	द्वितीय पत्र	सेवा सम्बन्धी	क	छोटो उत्तर	४	५	२०	१००	४०	३ घण्टा
				लामो उत्तर	३	१०	३०			
			ख	छोटो उत्तर	४	५	२०			
				लामो उत्तर	३	१०	३०			

### द्रष्टव्य:

- (१) लिखित परीक्षाको प्रश्न पत्र नेपाली वा अंग्रेजी दुवै भाषामा सोधिने छ। सबै प्रश्नको उत्तर अनिवार्य छ। लिखित परीक्षामा परीक्षार्थीले नेपाली र अंग्रेजी भाषामध्ये कुनै एक वा दुवै माध्यममा उत्तर दिन सक्नेछन्।
- (२) पाठ्यक्रममा भएका यथासम्भव सबै पाठ्यांशका ईकाईहरु समावेश हुनेगरी प्रश्न सोधिने छ।
- (३) यस पाठ्यक्रमका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियम तथा नीतिहरु परीक्षाको मितिभन्दा तीन महिना अगाडि संशोधन भई कायम रहेकालाई यस पाठ्यक्रममा समावेश भएको सम्झनु पर्छ।
- (४) लिखित परीक्षामा प्रत्येक पत्रको उत्तीर्णाङ्क न्यूनतम चालीस प्रतिशत अंक रहेको र लिखित परीक्षामा सफल भई योग्यताक्रममा छनौट भएका उम्मेदवारहरु मात्र अन्तर्वार्ता परीक्षामा सम्मिलित हुन पाउने छन्।
- (५) विषयगत प्रश्नहरुका हकमा एउटा लामो प्रश्न वा एउटै प्रश्नका दुई वा दुईभन्दा बढी भाग (Two or More parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरु (Short notes) सोध्न सकिनेछ।

पाठ्यक्रमको स्वीकृति तथा लागु मिति : २०७७/५/१३

## प्रथम-पत्र : कानून, तथा बैंकिंग सम्बन्धी

खण्ड - क : कानून तथा बैंकिङ्ग सम्बन्धी				छोटो उत्तर	४ प्रश्न X ५ अंक = २०
				लामो उत्तर	३ प्रश्न X १० अंक = ३०
पाठ्यक्रमको इकाई विभाजन					
बुँदा नं. :	१	२	३	४	
प्रश्न संख्या :	२	२	२	१	

- (१) **ऐन, नियम:** नेपाल राष्ट्र बैंक ऐन, २०५८, बैंक तथा वित्तीय संस्था सम्बन्धी ऐन २०७३, बैंकिङ्ग कसूर तथा सजाय ऐन, २०६४, सम्पत्ति शुद्धीकरण (मनी लाउण्डरिङ्ग) निवारण ऐन, २०६४, कम्पनी ऐन २०६३, विद्युतिय (इलेक्ट्रोनिक) कारोबार ऐन, २०६३ तथा नेपाल राष्ट्र बैंकबाट जारी एकिकृत निर्देशन सम्बन्धी जानकारी ।
- (२) **बैंकिङ्ग प्रणाली:** अवधारणा, विकासक्रम, बैंकका प्रकार तथा कार्यहरु, नेपालको आर्थिक विकासमा बैंकिङ्ग क्षेत्रको महत्व, वर्तमान अवस्था, केन्द्रीय बैंकको स्थापना, भूमिका, काम, कर्तव्य र अधिकार, नेपालमा बैंकिङ्ग क्षेत्रको वर्गीकरण तथा बैंक तथा वित्तीय संस्थाहरुको काम, कर्तव्य र अधिकार, बैंकिङ्ग क्षेत्रको सम्भावना, अवसर तथा चुनौतिहरु, बैंकिङ्ग व्यवसायमा जोखिम र न्यूनीकरणका उपायहरु ।
- (३) **बैंकिङ्ग सेवाहरु:** निक्षेप सेवा, कर्जा सेवा, विप्रेषण, प्रतीतपत्र, बैंक जमानत कारोबारको अवधारणा, महत्व र प्रकार, कोष र गैर कोषमा आधारित कारोबारहरु, कर्जा चक्र, कर्जाको वर्गीकरण, Branchless Banking, Any Branch Banking System (ABBS), Mobile Banking, Internet Banking, SWIFT, Debit Card, Credit Card, ATM, PoS, QR code, Online account, Good for Payment Cheque, Manager's Cheque, Locker, Financial Literacy, Digital Literacy, Kisan Credit Card/Apps, Opportunities and Challenges of Digital Banking in Nepal र बैंकिङ्ग शब्दावली (Banking Terminology) ।
- (४) **कृषि विकास बैंक लि.:** बैंकको स्थापना, विकासक्रम, कार्यप्रकृति, दूरदृष्टि, ध्येय, उद्देश्य, संगठनात्मक संरचना, कारोबारको अवस्था, वासलातको आकार, विद्यमान सबल एवं दुर्बल पक्ष तथा अवसर र चुनौतिहरु, कृषि विकास बैंक लि. कर्मचारी सेवा विनियमावली, २०६२, बैंक तथा वित्तीय संस्थामा कार्यरत कर्मचारीले पालना गर्नुपर्ने आचरण तथा अनुशासन ।

खण्ड - ख : व्यवस्थापन तथा आर्थिक सम्बन्धी				छोटो उत्तर	४ प्रश्न X ५ अंक = २०
				लामो उत्तर	३ प्रश्न X १० अंक = ३०
पाठ्यक्रमको इकाई विभाजन					
बुँदा नं. :	१	२	३	४	५
प्रश्न संख्या :	१	१	१	१	१

- (1) **Management:** Organization concept, Structure, objectives & principles, Communication System, Organization change & development, Organization cultural, Organization governance, Management concept, Principles, Types & Functions, Key management process, Current issues of management, Management Information System and its components, Time Management, Crisis Management, Conflict Management, Change Management, Knowledge Management, Record Management, Stress Management



- (2) **Human Resource Management:** Concept, function and importance of HRM, HR Planning, Recruitment & selection, Training & development, Job description, Job specification & Job analysis, Motivation, Reward & Punishment, Performance appraisal, Career Planning, Employee ethics, Human Resource Information System, Moral values, Retirement & Socialization, Industrial Relation & Collective Bargaining.
- (3) **Economics:** Characteristics of Nepalese economy, GDP, National Income, Per capita Income, Interest Rate, Inflation, Investment, Saving, Government Securities, Balance of Payment, Money market, Capital market.
- (4) **Strategic & Risk Management:** Strategic planning framework, Strategy formulation process and methods, SWOT analysis, Risk Management Concept, Identification, Types, Measurement, Cyber securities, IT risk management techniques and strategies, Contingency planning and management.
- (5) **Project Management:** Concept, Project identification, formulation, appraisal, implementation, monitoring, evaluation and control.
- (6) **Fiscal & Monetary policy:** Concept, feature, objectives and instruments of monetary policy & fiscal policy.
- (7) **Information Technology:** Computer System (Input Device, Output Device), Operating System, Application software, MS office system, Internet, Intranet, Extranet and e-mail system, Database management system, Hardware, Networking, Backup, Related threats. Need of core banking system (CBS) in banking business, Importance & related risks of CBS in banking institution.

### द्वितीय-पत्र : ( सेवा सम्बन्धी )

खण्ड - क :सेवा सम्बन्धी				छोटो उत्तर	४ प्रश्न X ५ अंक = २०	
				लामो उत्तर	३ प्रश्न X १० अंक = ३०	
पाठ्यक्रमको इकाई विभाजन						
बुँदा नं. :	१	२	३	४	५	६
प्रश्न संख्या :	१	१	२	१	१	१

1. **Engineering Survey:** Concept and basic principles of surveying.
- 1.1 Linear measurements: techniques; chain, tape, ranging rods and arrows; representation of measurement and common scales; sources of errors; effect of slope and slope correction; correction for chain and tape measurements; Abney level and clinometers
- 1.2 Compass and plane table surveying: bearings; types of compass; problems and sources of errors of compass survey; principles and methods of plane tabling
- 1.3 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; methods of contouring

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- 1.4 Theodolite traversing: need of traverse and its significance; computation of coordinates; adjustment of closed traverse; closing errors
- 1.5 Uses of Total Station and Electronic Distance Measuring Instruments
- 2. Drawing Techniques:**
  - 2.1 Drawing sheet composition and its essential components
  - 2.2 Suitable scales, site plans, preliminary drawings, working drawings etc
  - 2.3 Theory of projection drawing: perspective, orthographic and axonometric projection; first and third angle projection
  - 2.4 Drafting tools and equipments
  - 2.5 Drafting conventions and symbols
  - 2.6 Topographic, electrical, plumbing and structural drawings
  - 2.7 Techniques of free hand drawing
- 3. Structure Analysis and Design:**
  - 3.1 Stresses and strains; theory of torsion and flexure; moment of inertia
  - 3.2 Analysis of beams and frames: Bending moment, shear force and deflection of beams and frames: determinate structure - Energy methods; three hinged systems, indeterminate structures- slope deflection method and moment distribution method; use of influence line diagrams for simple beams, unit load method
  - 3.3 Reinforced concrete structures: Difference between working stress and limit state philosophy, 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
  - 3.4 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, column bases, Design principles on timber beams and columns
- 4. Estimating and Costing, Valuation and Specification:**
  - 4.1 Types of estimates and their specific uses
  - 4.2 Methods of calculating quantities
  - 4.3 Key components of estimating norms and rate analysis
  - 4.4 Preparation of bill of quantities
  - 4.5 Purpose, types and importance of specification
  - 4.6 Purpose, principles and methods of valuation
- 5. Transportation & Construction:**
  - 5.1 Transportation system and its classification.
  - 5.2 Road transport and road construction in Nepal.
  - 5.3 Classification of roads in Nepal (NRS and IRC)
  - 5.4 General principles of road network planning.
  - 5.5 Feasibility study of road projects.
  - 5.6 Alignment, engineering survey and its stages.
  - 5.7 Geometric design of roads: map study, element of cross-section and highway alignment, design of horizontal curve, super elevation, transition curve, vertical curves, right of way.
  - 5.8 Drainage consideration in roads: Introduction and design of culverts and minor bridges, cross drainage structures, subsurface drainage system

- 5.9 Special consideration in Hill roads design: Problems associated with hill roads construction, Route location, hairpin bends and special structures.
- 5.10 Bioengineering practices along hill side.
- 5.11 Activities and techniques in road construction in rural roads.
- 5.12 Maintenance, repair and rehabilitation of roads.
- 5.13 Basic knowledge on design, construction and maintenance of suspended and suspension bridge in Nepal.
- 5.14 Low-cost road construction.

## 6. Energy System:

- 6.1 Hydrological study, planning and design of hydropower projects.
- 6.2 Head works, dams, spillways, surge tanks, stilling basin etc.
- 6.3 River diversion works.
- 6.4 Biogas- Introduction.
- 6.5 Alternative energy systems in Nepal.

खण्ड - ख :सेवा सम्बन्धी				छोटो उत्तर	४ प्रश्न X ५ अंक = २०	
				लामो उत्तर	३ प्रश्न X १० अंक =३०	
पाठ्यक्रमको इकाई विभाजन						
बुँदा नं. :	१	२	३	४	५	६
प्रश्न संख्या :	१	१	२	१	१	१

## 1. Housing, building and urban planning:

- 1.1 Present status and practices of building construction in Nepal
- 1.2 Specific considerations in design and construction of buildings in Nepal
- 1.3 Indigenous technology in building design and construction
- 1.4 Local and Modern building construction material in Nepal
- 1.5 Community buildings: School and hospital buildings and their design considerations
- 1.6 Urban planning needs and challenges in Nepal.

## 2. Technology, Environment and civil society:

- 2.1 Technological development in Nepal.
- 2.2 Promotion of local technology and its adaptation
- 2.3 Environmental Impact Assessment, Initial Environmental Examination, Global-warming phenomena.
- 2.4 Types of sources of pollution: point / non-point (for air and water)
- 2.5 Social mobilization in local infrastructure development and utilization in Nepal.
- 2.6 Participatory approach in planning, implementation, maintenance and operation of local infrastructure

## 3. Construction Materials:

- 3.1 Properties of building materials: physical, chemical, constituents, thermal etc.
- 3.2 Stones-characteristics and requirements of stones as a building material
- 3.3 Ceramic materials: ceramic tiles, Mosaic Tile, brick types and testing etc.
- 3.4 Cementing materials: types and properties of lime and cement; cement mortar tests
- 3.5 Metals: Steel; types and properties; Alloys
- 3.6 Timber and wood: timber trees in Nepal, types and properties of wood



3.7 Miscellaneous materials: Asphaltic materials (Asphalt, Bitumen and Tar); paints and varnishes; polymers

**4. Building Construction Technology:**

- 4.1 Foundations: i) Subsoil exploration ii) Types and suitability of different foundation: shallow, deep, iii) Shoring and dewatering iv) Design of simple brick or stone masonry foundations
- 4.2 Walls: i) Types of wall & their functions ii) Choosing wall thickness, Height to length relation iii) Use of scaffolding
- 4.3 Damp Proofing: i) Sources of Dampness ii) Remedial measures to pre-went Dampness
- 4.4 Concrete Technology i) Constituents of cement concrete ii) Grading of aggregates iii) Concrete mixes iv) water cement ratio v) Factors affection strength of concrete vi) Form work vii) Curing

**5. Construction Management:**

- 5.1 Construction scheduling and planning:
  - i) Network techniques (CPM, PERT) ii) Bar chart iii) Gantt Chart
- 5.2 Contractual procedure and management:
  - i) Types of contract ii) Tender and tender notice iii) Preparation of bidding document iv) Contract prequalification/Post qualification v) Evaluation of tenders and selection of contractor vi) General Condition of contract vii) e-bidding viii) Single envelope & double envelope system.

**6. Professional Practices:** Ethics and professionalism, Code of conduct and guidelines for professional engineering practices, Nepal Engineering Council Act, 2055 and regulations, 2056, Relation with clients, contractor and fellow professionals, Public procurement practices for works, goods and services and its importance.



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