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राष्ट्रिय वाणिज्य बैंक लिमिटेड
तह ७, उप–प्रबन्धक (सूचना प्रविधि) (प्रशासन सेवा, सूचना प्रविधि समूह)
खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

</div>

सेवा :- प्रशासन   समुह :- सूचना प्रविधि   उपसमुह :-
तह :- ७   पद :- उप प्रवन्धक (सूचना प्रविधि)   किसिम :- खुला

पाठ्यक्रम योजनालाई निम्नानुसार दुई चरणमा विभाजन गरिएको छ ।

प्रथम चरण :- लिखित परीक्षा   पूर्णाङ्क :- २००

द्वितीय चरण :- अन्तर्वार्ता   पूर्णाङ्क :- ३०

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परीक्षा योजना (Examination Scheme)

</div>

१. प्रथम चरण : लिखित परीक्षा (Written Examination)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली		प्रश्नसंख्या x अङ्क	समय
प्रथम	Information Technology & Management	१००	४०	वस्तुगत	बहुवैकल्पिक प्रश्न (MCQ)	५० प्रश्न x १ अङ्क	४५ मिनेट
	Banking and Organizational Management			विषयगत	छोटो उत्तर	६ प्रश्न x ५ अङ्क	१ घण्टा ३० मिनेटा
					लामो उत्तर	२ प्रश्न x १० अङ्क	
द्वितीय	Information Technology & Management	१००	४०	विषयगत	छोटो उत्तर	४ प्रश्न x ५ अङ्क	३ घण्टा
					लामो उत्तर	८ प्रश्न x १० अङ्क	

२. द्वितीय चरण : अन्तर्वार्ता (Interview)

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	३०	मौखिक

द्रष्टव्य :
१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
२. प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
३. लिखित परीक्षामा सोधिने प्रश्नसंख्या र अंकभार यथासम्भव सम्बन्धित पत्र ⁄ विषयमा तोकिए अनुसार हुनेछ ।
४. वस्तुगत बहुवैकल्पिक (Multiple choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
५. वस्तुगत बहुवैकल्पिक हुने परीक्षामा परीक्षार्थीले उत्तर लेख्दा अंग्रेजी ठूलो अक्षर (Capital letter) A,B,C,D मा लेख्नुपर्नेछ । सानो अक्षर (Small letter) a,b,c,d लेखेको वा अन्य कुनै सङ्केत गरेको भए सबै उत्तरपुस्तिका रद्द हुनेछ ।
६. बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाईने छैन ।
७. विषयगत प्रश्नहरूको हकमा एउटा लामो प्रश्न वा एउटै प्रश्नका दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरू (Short notes) सोध्न सकिने छ ।
८. विषयगत प्रश्न हुने पत्र ⁄ विषयका प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नको उत्तर सोही खण्डको उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
९. यस पाठ्यक्रम योजना अन्तर्गतका पत्र ⁄ विषयका विषयवस्तुमा जुन सुकै कुरा लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
१०. प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ
११. **पाठ्यक्रम स्वीकृत मिति : २०८२/०९/१७**

राष्ट्रिय वाणिज्य बैंक लिमिटेड
तह ७, उप–प्रबन्धक (सूचना प्रविधि) (प्रशासन सेवा, सूचना प्रविधि समूह)
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प्रथम पत्र (Paper – I)

Banking and Organizational Management

Section – A (50 Marks)

1 Banking and Related Institutions

   1.1 Commercial Banking in Nepal: Evolution and Status

   1.2 Rastriya Banijya Bank: Role, Contribution, Challenges and Prospects

   1.3 Other Banks and Financial Institutions in Nepal: Role, Performance

   1.4 Payment System Operators (PSO), Payment Systems Providers (PSP)

   1.5 Merchant Banking Institutions, Private Equity Investments

   1.6 Mutual Funds

2 Banking Related Laws and Directives

   2.1 Nepal Rastra Bank Act, 2058

   2.2 Bank and Financial Institution Act, 2073

   2.3 Payment and Settlement Act, 2075

   2.4 Money Laundering Prevention Act, 2064

   2.5 Banking Offence and Punishment Act, 2064

   2.6 Electronic Transaction Act, 2063

   2.7 Negotiable Instrument Act, 2034

   2.8 The Act on Recovery of Debts of Banks and Financial Institutions, 2058

   2.9 Unified Directives and Circulars issued by Nepal Rastra Bank for Banks and Financial Institutions in Nepal

3 Other Related Laws and Bylaws

   3.1 Company Act, 2063

   3.2 Income Tax Act, 2058

   3.3 Labor Act, 2074

   3.4 Public Procurement Act, 2063

   3.5 Right to Information Act, 2064

   3.6 Bonus Act, 2030

   3.7 National Information and Communication Technology Policy, 2015 (2072 BS)

   3.8 National Cyber Security Policy, 2023 (2080 BS)

   3.9 राष्ट्रिय वाणिज्य बैंक, कर्मचारी सेवा विनियमावली, २०७०

4 Financial Markets and Banking Operation

   4.1 Basic Understanding of Financial Markets

   4.2 Interest Rates Determination

   4.3 Interest Rates Structures, Yield Curves

   4.4 Commercial Banking Operations

      4.4.1 Sources of Funds for Banks

      4.4.2 Uses of Funds by Banks

      4.4.3 Off-Balance Sheet Activities

5   Organizational Management and Planning

    5.1   Human Resource Management, Succession Planning, Knowledge Management

    5.2   Stress Management, Conflict Management, Time Management

    5.3   Strategic Management

    5.4   Risk Management

    5.5   Business Intelligence

    5.6   Business Continuity Plan (BCP)

    5.7   Project Appraisal, Financial Statement Analysis and Break-even Analysis

    5.9   Principles and Utility of Budget

6   Organizational Behavior and Development

    6.1   Employee Motivation,

    6.2   Performance Monitoring and Evaluation

    6.3   Management Information System

    6.4   Communication: Skill, Approach, Issues and Challenges

    6.5   Managing Organizational Changes and Innovations

    6.6   Entrepreneurship Skills and Development

    6.7   Emotional Intelligence, Empathy

    6.8   Grievance Handling

Section – B (50 × 1 = 50 Marks)

यस खण्डमा सोधिने बहुबैकल्पिक प्रश्नहरु (MCQ) द्वितीय पत्रको पाठ्यक्रमबाट सोधिनेछ ।

द्वितीय पत्र (Paper – II) :
Information Technology & Management
Section – A (50 Marks)

1. **Computer Organization and Architecture**
   1.1. Basic structures: General Principles of computer organization and Design
   1.2. Processing Unit: Instruction Format, Arithmetic and Logical Instruction, Addressing Modes and Formats
   1.3. Input Output Organization: I/O programming, Memory Mapped I/O, Basic Interrupt handling systems
   1.4. Computer Arithmetic: Arithmetic and Logic Unit, Integer Arithmetic and Representation, Floating-Point Arithmetic
   1.5. Memory Systems: Internal Memory, Cache Memory, Direct Memory Access, External Memory
   1.6. Parallelism and pipelining with CPU, Overlapped with CPU and I/O Operation

2. **Network and Communication**
   2.1. Introduction of Computer Network, Network Architecture, LAN architecture
   2.2. Network topologies, Network components: Repeaters, Hub, Switch and Router, Client Server and Peer2Peer model
   2.3. Basic Email and Internet Technology
   2.4. Application of Network utilities, IP Addressing
   2.5. Basic Switching and Routing Techniques, Multiplexing and de-multiplexing, UDP, TCP, flow control
   2.6. Network security: Cryptography, Digital Signature and digital certificate, Firewalls, Virtual Private Network (VPN)

3. **Emerging Technologies and Cybersecurity**
   3.1. Basics of Cloud Computing, Characteristics, Cloud, Fog,
   3.2. Cloud Technologies: IaaS, PaaS, SaaS, Types of Cloud Services Virtualization
   3.3. Concept of API, IoT, Big Data, DLT, AI and Machine Learning
   3.4. Introduction to Cyber Security, Access Control mechanisms, threats and vulnerabilities, Security attacks, Authentication and authorization, Password Management
   3.5. Electronic Transaction Act, 2063

4. **Operating System**
   4.1. Fundamentals of Operating System (OS)
   4.2. Processes and Threads: Symmetric Multiprocessing, Micro-kernels, Concurrency, Mutual Exclusion and Synchronization
   4.3. Basic Memory Management strategies, Virtual Memory Management Techniques
   4.4. Security Threats to Operating Systems, authentication and access authorization, system flaws and attacks
   4.5. Input Output and Files: I/O devices and its organization, Principles of I/O software and hardware

Section – B (50 Marks)

5. **Database Management System Design**
    5.1. Fundamentals of DBMS: Introduction, Database Model, Relational Database Model, Functional dependency, Integrity, RDBMS, Data Mining and Data Warehousing
    5.2. SQL and Embedded SQL: Writing Basic SQL Queries (DDL, DML, DCL), SQL middleware basics
    5.3. Fundamentals of database servers, functions, procedures, triggers and rules
    5.4. Transaction Management and Concurrency Control: Concurrent execution of the user programs, transactions, Concurrency control techniques
    5.5. Crash Recovery: Types of Failure, Recovery Techniques
    5.6. Disaster Recovery.
    5.7. Query Processing and Optimization

6. **Computer Programming**
    6.1. The role of Language translates in the Programming Process, Fundamental Issues in Language Design: Virtual Machines, Code Generation, Loop Optimization
    6.2. Concept of Procedural Programming, Structural Programming, Object-Oriented Programming and Fundamentals of C/C++ programming
    6.3. Java Programming for Declaration, Modularity and Storage Management Software Development, Java features, Difference between Java and C/C++, Java program structure
    6.4. Service Oriented Architecture (SoA), Micro services, services-based applications, and architecture
    6.5. System Analysis and Design: SDLC, Prototyping, Spiral, Waterfall, RAD, Requirement Analysis, E- R Diagram, Context Diagram, DFD, UML

7. **Data Structure and Algorithm**
    7.1. Fundamental of Data Structures, Abstract Data types
    7.2. Linear data structure: Stacks, Queues, Lists, Linked Lists, Priority Queue
    7.3. Trees: General and Binary Trees, Traversal, Implementations, Binary Search Trees, Balanced Search Trees, AVL Trees, 2-3 Trees, Red-black Trees
    7.4. Indexing Methods, Hashing Trees, Suffix Trees
    7.5. Time and space complexity, Bog O' Notation
    7.6. Analysis of Simple Recursive and Non-recursive Algorithms
    7.7. Searching, Merging and Sorting, Divide-and-Conquer, Dynamic Programming, Greedy Methods, Backtracking
    7.8. Graph algorithms: Depth-first Search and Breadth-first Search, Shortest Path Problems, Minimum Spanning Trees, Directed Acyclic Graph

Syllabus Division

Paper	Subject	Section	Marks	Unit	Question Model
First	Banking and Organizational Management	A	50	1 to 6	6 Questions x 5 Marks 2 Questions x 10 Marks
	Information Technology & Management	B	50	द्वितीय पत्रको Section A बाट	25 Questions x 1 Marks
				द्वितीय पत्रको Section B बाट	25 Questions x 1 Marks
Second	Information Technology & Management	A	50	1 to 4	2 Questions x 5 Marks 4 Questions x 10 Marks
		B	50	5 to 7	2 Questions x 5 Marks 4 Questions x 10 Marks