नेपाल बैंक लिमिटेड

तह ९, वरिष्ठ प्रबन्धक (IT) पदको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

पाठ्यक्रमको योजनालाई निम्नानुसार दुई चरणमा विभाजन गरिएको छ :

प्रथम चरण :- लिखित परीक्षा — पूर्णाङ्क :- २००

द्वितीय चरण :- अन्तर्वार्ता — पूर्णाङ्क :- ३०

परीक्षा योजना (Examination Scheme)

प्रथम चरण :- लिखित परीक्षा (Written Examination)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली		प्रश्नसंख्या x अङ्क	समय
प्रथम	Banking, Management, General IT and Service Related	१००	४०	विषयगत	सैद्धान्तिक-तर्कयुक्त र विश्लेषनात्मक प्रश्न	६ प्रश्न x १० अङ्क	३ घण्टा
					समस्या समाधान प्रश्न	२ प्रश्न x २० अङ्क	
द्वितीय	Information Technology	१००	४०	विषयगत	सैद्धान्तिक-तर्कयुक्त र विश्लेषनात्मक प्रश्न	६ प्रश्न x १० अङ्क	३ घण्टा
					समस्या समाधान प्रश्न	२ प्रश्न x २० अङ्क	

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. लिखित परीक्षामा सोधिने प्रश्नसंख्या र अङ्कभार यथासम्भव सम्बन्धित पत्र/विषयमा दिईए अनुसार हुनेछ ।

३. विषयगत प्रश्नहरुको 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 टिप्पणीहरु (Short notes) सोध्न सकिने छ ।

४. विषयगत प्रश्न हुने पत्र/विषयका प्रत्येक भाग/खण्ड/एकाइ/प्रश्नका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरु हुनेछन् । परिक्षार्थीले प्रत्येक भाग/खण्ड/एकाइ/प्रश्नका प्रश्नको उत्तर सोही भाग/खण्ड/एकाई/प्रश्नको उत्तरपुस्तिकामा लेख्नुपर्नेछ ।

५. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जुन सुकै कुरा लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरु परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्क्रममा परेको सम्झनु पर्दछ ।

६. प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।

७. **पाठ्यक्रम स्वीकृत मिति :–२०८१/१२/१४**

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प्रथम पत्र :
Banking Management, General IT and Service Related

खण्ड (क): (३ प्रश्न × १० अङ्क + १ प्रश्न × २० अङ्क = ५०)

1. Banking and Management

1.1 Concept of banking and its development
1.2 Functions of commercial banks
1.3 Types of deposit and their mobilization
1.4 Process automation vs. Employee engagement
1.5 Perception and its determinants, motivation and its principles
1.6 Group dynamics and team work and its implications to bank
1.7 Communication : concept, modes and importance
1.8 Problem solving and decision making process
1.9 Time management, stress management
1.10 Supply chain management
1.11 Organizational structure and business process reengineering
1.12 Bank and Financial Institution Act, 2073
1.13 Compliance Reports - NRB, Basel-III, Credit Information Centre (CIC)
1.14 Nepal Rastra Bank Act, 2058
1.15 Banking Offence and Punishment Act, 2064

खण्ड (ख): (३ प्रश्न × १० अङ्क + १ प्रश्न × २० अङ्क = ५०)

2. General IT

2.1 Electronic Transaction Act, 2063
2.2 Cybersecurity Policy, 2080
2.3 NRB IT Policy
2.4 IT System Risks in Banking and Financial System, Cyber Crime and Code of Conduct, Legal Issues in Cyber Crime
2.5 Digital Certificate and Digital Signature
2.6 Ethics in Cybersecurity and Cyber Law
2.7 Troubleshooting and Maintenance in Bank's ICT System
2.8 IT Project planning, implementing and monitoring
2.9 Challenges in IT service management
2.10 Role of ICT in the Development of Banking and Financial System in Nepal
2.11 Business Continuity Planning and Disaster Recovery System for Banks
2.12 Impacts of Technology on Individual, Group and Society
2.13 Proper use of ICT for Rationale Decision Making (Decision Support System)
2.14 Electronic Fund Transfer (Web Remittance)

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द्वितीय पत्र: Information Technology
खण्ड (क): (३ प्रश्न × १० अङ्क + १ प्रश्न × २० अङ्क = ५०)

1. **Banking Fundamentals**
   - 1.1 Banking types: shadow banking, neo-banking, fintech collaboration, and decentralized finance (DeFi)
   - 1.2 Core banking functions with cross-functional integration, value stream mapping, and process automation (Retail, Corporate, and Treasury)
   - 1.3 Regulatory dynamics: Evolution of global regulatory frameworks (Basel III and IV, Dodd-Frank Act, MiFID II, GDPR, NRB IT Guidelines, ICT policy, Legal Issues in Cyber Crime, Ethics in Cybersecurity & Cyber Law)
   - 1.4 Advanced financial products: Structured products, derivatives, credit default swaps (CDS), collateralized debt obligations (CDO), and algorithmic trading

2. **Digital Banking**
   - 2.1 Omnichannel digital banking platforms with real-time data analytics
   - 2.2 Payment ecosystems: Interoperability across global systems (ISO 20022 standard, PSD2 compliance, cross-border cryptocurrency transactions)
   - 2.3 Advanced cryptographic techniques in digital wallets, tokenization, and secure multi-party computation (SMPC)
   - 2.4 Strategic impact of Open Banking, Banking-as-a-Service (BaaS), embedded finance, and the rise of super-app ecosystems
   - 2.5 Analysis of next-gen CBS architectures: Microservices, event-driven systems, and serverless computing.

3. **Risk and Compliance**
   - 3.1 Advanced cybersecurity protocols: Zero Trust Architecture, SOAR frameworks, and advanced threat intelligence platforms.
   - 3.2 Enterprise-wide AML strategies, AI/ML for dynamic pattern recognition in transaction monitoring.
   - 3.3 Global data privacy frameworks: Cross-border compliance with CCPA, LGPD, GDPR, and implications of data localization laws.
   - 3.4 Quantitative risk modeling for IT systems, including stress testing, scenario analysis, and Monte Carlo simulations

4. **Core Banking Technology**
   - 4.1 Database Management and Data Warehousing, managing large-scale banking databases (SQL, NoSQL), Graph Databases, NewSQL, and distributed databases (Cassandra, CockroachDB), Ensuring data integrity, backup, and disaster recovery plans
   - 4.2 Crash Recovery: Types of failure, Recovery techniques, Query Processing and Optimization; Indexing: Hash based indexing, Tree based indexing; Distributed Database Systems and Object-oriented database system

4.3 Advanced Data Storage Techniques: Network Attached Storage, Storage Area Networks

5. **Software Development and Management**
   5.1 Advanced SDLC methodologies: CI/CD pipelines, Infrastructure as Code (IaC), and GitOps.
   5.2 Leveraging DevSecOps for secure software development, integrating vulnerability scanning, and automated security testing.
   5.3 API ecosystems: API gateways, API monetization strategies, and micro-frontend

खण्ड (ख): (३ प्रश्न × १० अङ्क + १ प्रश्न × २० अङ्क = ५०)

6. **IT Infrastructure**
   6.1 Managing networks: WAN, LAN, VPN, and cloud integration, Network security: firewalls, intrusion detection, and monitoring, Server concepts-Proxy/web/DNS servers, IP interconnection, Tier ISP architecture, VoIP, FoIP, remote login (telnet, ssh), Traffic monitoring (MRTG, bandwidth, throughput, latency/delay)
   6.2 Latest networking: Software-Defined Networking, Software-Defined IPv6 (SoDIP6) Network, IPv6 network migration methods, SDN migration methods, IoT, WSN, NGN
   6.3 Hybrid and multi-cloud strategies with orchestration tools (Kubernetes, Docker Swarm, Anthos)
   6.4 Cutting-edge network security: SD-WAN, ZTNA, advanced DDoS protection, and Secure Access Service Edge (SASE)

7. **Emerging Technologies**
   7.1 Ethical Artificial intelligence (AI), explainable AI (XAI), generative AI
   7.2 Advanced block chain applications: Central Bank Digital Currencies (CBDCs), smart contract automation, and decentralized identity
   7.3 Internet of Things (IoT) ecosystems in banking: Connected devices for financial insights and remote monitoring
   7.4 Quantum-safe cryptographic approaches and post-quantum cryptography for securing banking IT

8. **IT Governance and Regulatory Compliance**
   8.1 IT Governance in Banking: Introduction to IT governance frameworks (COBIT, ITIL, and ISO/IEC 27001 standards), Developing IT policies and best practices for bank-wide implementation, legal framework for data protection and privacy
   8.2 Regulatory Compliance: Ensuring compliance with financial regulations (KYC, AML, GDPR), Role of IT in internal and external audits
   8.3 Managing Financial IT Risks: Operational Risk Management: Risk Assessment and Mitigation Techniques in IT, Cyber Risk Management: Assessing the Vulnerabilities in Bank IT Systems, Penetration Testing Techniques: Identifying Vulnerabilities in Bank IT Systems, Network Security and Infrastructure Protection, Stress Testing of IT Systems for Financial Stability

8.4 Ethical and Legal Implications of IT: Data Ethics: Ownership, Consent, and Data Sovereignty, Legal Implications of Artificial Intelligence in Banking (Liability, Transparency), Open Banking and Consumer Rights

9. **Business Continuity Planning**

9.1 Developing Business Continuity Plans: Ensuring business continuity in case of IT failures or data breaches, Role of IT officers in disaster recovery planning

9.2 Disaster Simulation and Response: Responding to simulated cyber-attacks and system failures, Reviewing and improving disaster recovery strategies

9.3 Cloud-native disaster recovery planning with edge computing failover solutions.

9.4 Strategic frameworks for operational resilience, business impact analysis (BIA), and crisis communication planning

10. **Leadership and Behavioral Skills**

10.1 Data-driven decision-making for IT executives, advanced analytics and decision intelligence platforms

10.2 Change management techniques: Proactive vs reactive transformations, stakeholder engagement, and cultural alignment.

10.3 Strategic communication: Tailoring data-driven narratives for C-suite and board-level stakeholders.

10.4 Negotiation techniques for cross-departmental collaborations and external partnerships

10.5 Building global partnerships with technology providers, fintechs, and regulatory bodies Managing ethical dilemmas in advanced technology in banking

10.6 Promoting innovation while maintaining stringent regulatory and ethical compliance

10.7 Leadership in fostering a data-centric, inclusive, and ethical workplace culture