नेपाल बैंक लिमिटेड
तह ८, 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 Service Related	१००	४०	विषयगत	छोटो उत्तर आउने प्रश्न	४ प्रश्न x ५ अङ्क	३ घण्टा
					लामो उत्तर आउने प्रश्न	८ प्रश्न x १० अङ्क	
द्वितीय	Information Technology	१००	४०	विषयगत	तर्कयुक्त 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 पाठ्यक्रममा परेको सम्झनु पर्दछ ।

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

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

तह ८, प्रबन्धक **(IT)** पदको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

प्रथम पत्र :

Banking Management, General IT and Service Related

खण्ड (क): (२ प्रश्न × ५ अङ्क + ४ प्रश्न × १० 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 Perception and its determinants, motivation and its principles
   1.5 Group dynamics & team work and its implications to bank.
   1.6 Communication : concept, modes and importance
   1.7 Problem solving and decision making process
   1.8 Time management, stress management
   1.9 Compliance Reports - NRB, Basel-III, Credit Information Centre (CIC)
   1.10 Bank and Financial Institution Act, 2073
   1.11 Nepal Rastra Bank Act, 2058
   1.12 Banking Offence and Punishment Act, 2064

खण्ड (ख): (२ प्रश्न × ५ अङ्क + ४ प्रश्न × १० अङ्क = ५०)

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

द्वितीय पत्र: **Information Technology**

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

1. **Banking, Network and Data Management**
   1.1 Analysis next-gen CBS architectures: Microservices, event-driven systems, and serverless computing
   1.2 Database Management and Data Warehousing, NoSQL, Graph Databases, NewSQL, and distributed databases, Distributed Database Systems and Object-oriented database system backup, and disaster recovery plans; Crash Recovery: Types of failure, Recovery techniques, Query Processing and Optimization; Indexing: Hash based indexing, Tree based indexing
   1.3 Advanced Data Storage Techniques: Network Attached Storage, Storage Area Networks
   1.4 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); Latest networking: Software-Defined Networking, Software-Defined IPv6 (SoDIP6) Network, IPv6 network migration methods, SDN migration methods, IoT, WSN, NGN

2. **Digital Transformation in Banking**
   2.1 Digital Banking Ecosystem: Introduction to digital banking (mobile banking, online platforms, digital wallets, Leading IT initiatives for supporting digital banking services)
   2.2 Cloud Computing: Benefits and Challenges of Cloud for Banks: Security, Scalability, and Compliance, Cloud Security Models for Banks: Shared Responsibility, Hybrid Cloud Strategies, Financial Cloud Services: AWS, Microsoft Azure, Google Cloud – Specialized Solutions for Banks
   2.3 Ecommerce: Reverse Engineering, E-Banking, EDI Methods, SWIFT, card and delivery channels, ATM Switch
   2.4 Virtual Currency: History, Development, Models, Risks and Benefits, Initial Coin Offering, cryptography, digital signature, hashing; Decentralized finance: Transactions, Fungible and non-fungible tokens, custody, supply adjustment, swap, collateralized and uncollateralized loans
   2.5 FinTech and Digital Transformation: Embedded Finance and the Rise of Banking-as-a-Service (BaaS), Robo-advisors, Peer-to-Peer Lending, and Crowdfunding Platforms, The Role of Digital Identity Verification and Smart Contracts in Financial Services

3. **Emerging Technologies**
   3.1 Ethical AI, explainable AI (XAI), generative AI
   3.2 Role of AI, machine learning, fintech in modern banking, Supporting the integration of emerging technologies with existing banking infrastructure

3.3 Blockchain Technology: Consensus Mechanisms, Smart Contracts, Tokenization Cryptocurrencies, Central Bank Digital Currencies (CBDCs), smart contract automation, and decentralized identity

3.4 Blockchain Use Cases: Cross-border Payments, Trade Finance, and KYC

3.5 Quantum-safe cryptographic approaches and post-quantum cryptography for securing banking IT

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

4. **Disaster Recovery and Business Continuity**

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

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

4.3 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.

5. **IT Governance and Regulatory Compliance**

5.1 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

5.2 Regulatory Compliance: Ensuring compliance with financial regulations (KYC, AML, GDPR), Role of IT in internal and external audits

5.3 Cyber Defense Strategies: Zero-Trust Architecture in Banking IT Systems, Blockchain for Cybersecurity: Distributed Security for Digital Transactions, Incident Response Frameworks and Cyber Crisis Management

5.4 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

6. **Software Development and Management**

6.1 Advanced SDLC methodologies: CI/CD pipelines, Infrastructure as Code (IaC), and GitOps

6.2 Leveraging DevSecOps for secure software development, integrating vulnerability scanning, and automated security testing.

6.3 API ecosystems: API gateways, API monetization strategies, and micro-frontend integration