# कर्मचारी सञ्चय कोष

पुल्चोक, ललितपुर

# आन्तरिक तथा खुल्ला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

# १. पाठ्यक्रमको परिचय:

(क) तह र पद: तह ६, सहायक प्रवन्धक (कम्प्युटर)

(ख) सेवा/समृह: प्राविधिक / कम्प्यटर

(ग) परीक्षाको किसिम:

लिखित : २०० पूर्णाङ्ग अन्तर्वार्ता : ३० पूर्णाङ्ग

(घ) आवश्यक न्यूनतम शैक्षिक योग्यता : मान्यता प्राप्त शिक्षण संस्थाबाट कम्प्युटर विज्ञान (Computer Science), वा BSc CSIT वा कम्प्युटर इन्जिनियरिङ्ग (Computer Engineering) विषयमा स्नातक उपाधि प्राप्त गरेको ।

## (ङ) पाठ्यक्रमको उद्देश्य :

कोषको तह ६, सहायक प्रवन्धक (कम्प्युटर) पदका लागि निर्धारित कार्यविवरणलाई दृष्टिगत गरी तोकिएको आवश्यक न्यूनतम शैक्षिक योग्यता पुगेका योग्य उमेदवारहरूबाट कम्प्युटर, सूचना प्रविधि, Database, System Analysis and Design, Programming Languages तथा Networking जस्ता सान्दर्भिक विषयमा उम्मेदवारहरूको सैद्धान्तिक र व्यावहारिक ज्ञानको परीक्षण गर्नु प्रस्तुत पाठ्यक्रमको उद्देश्य रहेको छ ।

# २. परीक्षा योजना (Examination Scheme)

| पत्र    | विषय  | परीक्षाको किसिम   | पश्न संख्या  | अंक भार        | पूर्णाङ्क | उत्तीर्णाङ्क | समय     |
|---------|---|---|--|----------------|-----------|--------------|---------|
| प्रथम   | Computer Hardware,<br>Software, Network and<br>programming सम्बन्धी<br>ज्ञान                    | वस्तुगत   | प्रत्येक खण्डवाट<br>समानुपातिक<br>रुपमा पर्ने गरी<br>४० प्रश्न । | ५०x२           | 900       | 80           | १ घण्टा |
| द्वितीय | Computer Hardware,<br>Software, Network and<br>Front End Programming<br>Language सम्बन्धी ज्ञान | सैद्धान्तिक तथा<br>व्यावहारिक ज्ञान र<br>प्रयोगात्मक<br>समस्याको समाधान | प्रत्येक खण्डवाट<br>कम्तिमा एक<br>प्रश्न गरी ५<br>प्रश्न ।       | 90 <b>x</b> 90 | 900       | 80           | ३ घण्टा |

#### द्रष्टव्यः

- (क) प्रश्न पत्र अंग्रेजी भाषामा तयार हुनेछ ।
- (ख) लिखित परीक्षाको भाषा नेपाली वा अंग्रेजी वा द्वै हुन सक्नेछ ।
- (ग) वस्तुगत प्रश्नहरु हरेक खण्डबाट समानुमातिक रुपमा पर्ने गरी तयार गर्नु पर्नेछ ।



# पाठ्कमको विस्तृत विवरण

## खण्ड 1 : Fundamental Concepts of Information Technology (20)

- 1. Fundamentals of Computer and Information Technology
- 2. Components and Architecture of Computers, Connecting the Components,
- 3. Computer Hardware (I/O, Storage, CPU, Memory, Peripherals), Software (introduction and classifications)
- 4. Computer Operating System
- 5. File and Disk Management
- 6. Browser, E-mails, Internet, Intranet, Extranets
- 7. Basic concepts of e-commerce, electronic payment
- 8. Overview of IT Sector of Nepal, Legal Provisions, Nepali Unicode
- 9. Tools and utilities

## खण्ड 2 : Database Management (20)

- Fundamental Concepts of Databases, Database Management Systems (DBMS) and Relational Database Management Systems (RDBMS)
- Data Independence, Normalization, Converting E-R diagrams to Relations
- Introduction to SQL, SQL Command Classifications (Query/SELECT Command, DDL, DML, DCL)
- 4. Writing Basic SQL Statement
- 5. Restricting & Sorting Data
- Displaying Data From Multiple Tables (JOINS, Inner JOINS, Outer JOINS, Equi-JOINS, Non-equi JOINS)
- 7. Aggregating Data Using Group Functions
- 8. Sub-Queries
- 9. Advanced Sub Queries
- Manipulating Data, Creating and Managing Tables

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- 11. Including Constraints
- 12. Views, Synonyms

#### ৰণ্ড 3 : Knowledge of Front End Programming Languages (20)

- 1. ASP. Net with c# programming language.
- 2. java,
- 3. PHP

#### खण्ड 4 : System Analysis and Design (20)

- Basic concepts of Systems Analysis and Design
- 2. Defining the System, System Stakeholders (Owner, Users, Designers, Builders and Analysts), System Life Cycle.
- 3. System Investigation: Finding the Problem/Need Assessment, Feasibility Analysis (Technical, Operational, Economic), Developing and Evaluating System Proposal
- 4. System Analysis: Requirements Analysis, Fact Fining Techniques, System Requirement Specifications
- 5. System Design: Modeling, Modeling Tools (E-R Diagram, DFD Diagram, Flow Charts)
- 6. System Implementation
- 7. System Maintenance and Support

### ৰণ্ড 5 : Networking (20)

- 1. Network Fundamentals
- 2. Common Network Protocols
- 3. Network Infrastructure
- 4. Client/Server Architecture
- 5. Operation and Working with networking (LAN, MAN, WAN etc.)
- 6. Local Area Networking (physical media, protocols, applications etc.)
- 7. Working Knowledge of TCP/IP
- 8. Computer Networking in Windows Environment
- Connecting different resources using computer network in the Windows environment
- 10. Troubleshooting and maintenance of computers, network and peripheral devices
- 11. Concept of Wireless network and Virtual Private Network
- 12. Backup and Recovery
- 13. Security (Virus and Malicious Software Protection, LAN security, Internet Security)
- 14. Fundamental Network Support Tools

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