

सामाजिक सुरक्षाकोष
सेवा : विविध, समूह : कम्प्युटर इन्जिनियरिङ, तह : ९, पद : उपनिर्देशकको खुला र आन्तरिक प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

यस पाठ्यक्रमलाई दुई भागमा विभाजन गरिएको छ ।

परीक्षा योजना(Examination Scheme)

१. प्रथम चरण : लिखित परीक्षा(Written Examination)

पूर्णाङ्क :- २००

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली		प्रश्नसंख्या X अङ्क	समय
प्रथम	सार्वजनिक प्रशासन र व्यवस्थापन	१००	४०	विषयगत	विश्लेषणात्मक एवं समस्या समाधानमूलक लामो उत्तर	५ प्रश्न X २० अङ्क	३ घण्टा
द्वितीय	सेवा सम्बन्धी प्राविधिकविषय	१००	४०	विषयगत	विश्लेषणात्मक एवं समस्या समाधानमूलक लामो उत्तर	८ प्रश्न X ५ अङ्क ६ प्रश्न X १० अङ्क	३ घण्टा

२. द्वितीय चरण : अन्तर्वार्ता र प्रस्तुतीकरण

पूर्णाङ्क :- ५०

विषय	पूर्णाङ्क	परीक्षा प्रणाली	समय
व्यक्तिगत अन्तर्वार्ता	३०	मौखिक	-
प्रस्तुतीकरण	२०	समसामयिक विषयमा समूहमा व्यक्तिगत प्रस्तुति (१ जनालाई १० मिनेट)	१ घण्टा

द्रष्टव्य:

१. माथि उल्लिखित सबै सेवा अन्तर्गतका समूह/उपसमूहहरूको पाठ्यक्रमको प्रथमपत्र खण्ड (क) को विषयवस्तु एउटै हुनेछ ।

२. लिखित परीक्षामा यथासम्भव पाठ्यक्रमका सबै एकाईबाट प्रश्नहरू सोधिनेछ ।

३. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।

४. यथासम्भव प्रश्नहरू नेपालको सन्दर्भमा सोधिने छन् ।

५. द्वितीय पत्रको विषयगत प्रश्नकालागि तोकिएका १० अङ्कका 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 ।

७. यस पाठ्यक्रममा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियमहरू परीक्षाको मितिभन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।

८. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको अन्तर्वार्तामा सम्मिलित गराइनेछ ।

९. पाठ्यक्रमलागु मिति - २०७६।०२।१५

Paper: First: Public Administration and Management

Time: 3 Hours

Full Marks: 100

Section A: 3x10 = 30 Marks

1. Public Policy: Concept, Formulation, Implementation, Monitoring and Evaluation, Problems and Challenges in the processes of various stages of Public Policy
2. Social security: concept, rationale, international practices, provision of social security in Nepal and their effectiveness
3. Role of cultural heritage and labour market intervention in promoting social security in the Nepalese context
4. Envisioning Governance and Public Service
5. Unionism and Its Impacts in Public Sector Performance
6. Resource Mobilization (Internal and External): Opportunities and Threats
7. State Responsibility

Section B: 3x10 = 30 Marks

8. Human Resource Management: Functions, Problems, Challenges
9. Human Resource Planning
10. Human Resource Development
11. Job description
12. Employee Motivation,
13. Performance Evaluation System
14. Reward Management
15. Performance Contract
16. Integrity, Ethics and Professionalism
17. Self-development
18. Positive Attitude
19. Social Responsibility

Section C: 2x10 = 20 Marks

20. Managerial Skills: Communication, Decision Making, Coordination, Grievance Management, Negotiation, Conflict Management, Crisis Management, Change Management, Risk Management, Time Management, Leadership, Co-ordination, Reporting

Section D: 2x10 = 20 Marks

१. Contemporary Issues: Globalization, Poverty, Sustainable Development Goals, Gender and Social justice, Food Safety and Food Security, Unemployment, Brain and Muscle Drain, Human Trafficking, Drug Trafficking, Cyber Crime, Transnational Threats, Terrorism.
२. Social Security System in Nepal - Current Status of Social Security System in Nepal, Social Security related laws and procedures- Constitution of Nepal (Directive Principles and State Policies), Contribution based Social Security Fund Act and regulation, Bonus Act and regulation, Labor Act and regulation, Electronic Transaction Act, Social Security Fund Operation Procedure, Employer and worker registration procedure, Social Security Fund Employee Administration regulation.

द्वितीय पत्र :- सेवा सम्बन्धी प्राविधिक विषय

1. Introduction [Marks: 5]
 - 1.1 General concept of Information Technology (IT) planning.
 - 1.2 Importance of IT in national development.
 - 1.3 Social and cultural aspects of IT.
 - 1.4 Global information superhighway
2. Software Engineering [Marks: 10]
 - 2.1 Software project management.
 - 2.2 Requirement analysis.
 - 2.3 System, data and process modeling.
 - 2.4 Software testing.
 - 2.5 Software quality assurance.
 - 2.6 Software quality standards: International Organization for Standardization (ISO), Software Engineering Institute (SEI), Computer-Aided Software Engineering (CASE) Tools.
 - 2.7 Software cost estimation.
3. Computer Architecture & Organization [Marks: 5]
 - 3.1 Instruction set architecture.
 - 3.2 CPU design and architecture.
 - 3.3 Memory hierarchy.
 - 3.4 Input / Output system.
 - 3.5 Complex Instruction Set Computer (CISC) vs. Reduced Instruction Set Computer (RISC)
4. Operating Systems [Marks: 5]
 - 4.1 Components of the Operating Systems.
 - 4.2 Processes.
 - 4.3 IPC and deadlocks.
 - 4.4 Memory management.
 - 4.5 Input / Output and files.
 - 4.6 Scheduling.
 - 4.7 Different types of Operating Systems (OS) (DOS, UNIX, LINUX, WINDOWS, IOS).
 - 4.8 Distributed Operating System.
 - 4.9 Security issues.
5. Management Information System (MIS) and Web Engineering [Marks: 10]

- 5.1 Information Systems, Client-Server Computing.
- 5.2 Information Systems and Decision Making.
- 5.3 Database Design issues
- 5.4 Knowledge Management, The strategic use of Information Technology.
- 5.5 Work Process Redesign (Reengineering) with Information Technology, Enterprise Resources Planning Systems, Information Systems Security, Information Privacy, and Global Information Technology issues.
- 5.6 Software Supported Demonstrations including advanced Spreadsheet topics, Software Component Based Systems (CBSE)
- 5.7 Multimedia
- 5.8 Object-Oriented Programming with COMS & DECOMS
- 5.9 Group Decision Support Systems
- 5.10 Basics of Website Design.

6. Computer Networks

[Marks: 10]

- 6.1 Network fundamentals.
- 6.2 Open Systems Interconnection (OSI) model.
- 6.3 Network protocols.
- 6.4 Transmission Control Protocol/Internet Protocol (TCP / IP) services (Domain Name System (DNS), Simple Network Time Protocol (SNTP), File Transfer Protocol (FTP), Dynamic Host Configuration Protocol (DHCP), etc)
- 6.5 Network infrastructures (Local-Area Network (LAN) and Wide-Area Network (WAN) including IEEE 802. standards).
- 6.6 Virtual Area Network (VAN) and remote access.
- 6.7 Internet and World Wide Web (WWW).
- 6.8 Distributed system.
- 6.9 Privacy and security issues.

7. Database Management System

[Marks: 10]

- 7.1 Database model.
- 7.2 Structured Query Language (SQL).
- 7.3 Functional dependency.
- 7.4 Database design.
- 7.5 Transaction management and concurrency control.
- 7.6 Query processing and optimization.
- 7.7 Normalization.
- 7.8 DBMS architecture.
- 7.9 Basic concept of major DBMS products (Oracle, DB2, Sybase, MSSQL server, etc)
- 7.10 Data mining and Data warehousing.

8. Information Technology (IT) Strategy

[Marks: 5]

- 8.1 Strategic use of IT.

- 8.2 Porter 5 Forces model.
- 8.3 Formulating long-term objectives;
 - 8.3.1 Long-term objectives.
 - 8.3.2 Generic strategies.
 - 8.3.3 The value disciplines.
 - 8.3.4 Grand strategies.
- 8.4 Strategic analysis and choices.
- 8.5 Value chain analysis.
- 8.6 SWOT analysis.
- 8.7 Core competencies.
- 8.8 Strategy control and continuous improvement.
- 8.9 Strategy implementation.

9. E-Commerce Technology

[Marks: 5]

- 9.1 Introduction to E-Commerce
- 9.2 Electronic Commerce Strategies
- 9.3 Business models of E-Commerce.
- 9.3 B2B E-Commerce and Electronic data interchange (EDI).
- 9.4 Business applications of E-Commerce.
- 9.5 Electronic payment system.
- 9.6 Security issues of E-Commerce.
- 9.7 Public key infrastructure (PKI) and digital signature
- 9.8 Encryption and decryption methods.

10. E-Governance

[Marks: 10]

- 10.1 Managing E-Governance.
- 10.2 E-Governance strategy.
- 10.3 Managing public data.
- 10.4 Emerging issues of E-Governance.
- 10.5 Implementing E-Governance.
 - 10.5.1 E-Governance system life cycle and project assessment.
 - 10.5.2 Analysis of current reality.
 - 10.5.3 Design of new E-Governance system.
 - 10.5.4 E-Governance risk assessment and mitigation.
 - 10.5.5 E-Governance system construction implementation and beyond.
- 10.6 Nepalese E-Governance initiative and E-Governance master plan of Nepal.
- 10.7 Government enterprise architecture and government portal.
- 10.8 Government integrated data center.
- 10.9 Focal agencies for E-Government (NITC, Dept. of Information and Broadcasting, Office of Controller of Certificate, etc).

11. Structured and Object-Oriented Programming

[Marks: 5]

- 11.1 Data types, ADT
- 11.2 Operators, variables and assignments, control structures
- 11.3 Procedure/function
- 11.4 Class definitions, encapsulation, inheritance, object composition, Polymorphism
- 11.5 Pattern and framework

12. System Analysis and Design Project Management [Marks: 5+10=15]

- 12.1 Defining the System, System Owner, System User, System Designers and system Builders, System Analysts, Variations on the System Analyst title, System life Cycle,
- 12.2 Joint Application Development (JAD): JAD definition, JAD purpose, JAD Philosophy, JAD Scope,
- 12.3 Involved in a JAD: Sponsor, Business Users, System Analyst
- 12.4 Roles of JAD Group Member: Project Leader, Record Keeper, Time Keeper.
- 12.5 The System Design Environment: Development Process, Management Process, System Structure, Basic Component of Computer based Information System, Personal/ Centralized/Distribution System.
- 12.6 Concept formations: Introduction, Finding the Problem, Evaluating the Proposal, Technical Feasibility, Operational Feasibility, Economic Feasibility.
- 12.7 Requirements analysis: Representing System Analysis Model, Requirement Model, Design Model,
- 12.8 Development Process: Design Method.
- 12.9 Entity Relationship Diagram (E-R Diagram): Notations, Entities: Strong Entities, Weak Entities, Attributes: Simple and Composite, Single Valued and Multiple Valued, Null and Derived Attribute.
- 12.10 Relationship Sets: Degree of Relationship and Cardinality Relationship, Specialization, Generalization, Aggregation.
- 12.11 Data Flow Diagrams (DFDs): Introductions, Data flow Diagram, Symbol, Files or data store, External entities, Data flows,
- 12.12 Describing System by Data Flow Diagram: Context diagram, Top level DFD, Expansion Level DFD, Conversions of Data.
- 12.13 Object Modeling: Object -Oriented Concept, Object Structure, Object Feature, Class and Object.
- 12.14 Representation: Association and Composition, Inheritance, Multiple Inheritances.
- 12.15 Modeling: Use Case Diagram, State Diagram, Event Flow Diagram.
- 12.16 Documentation: Automatic and Manual System.

13.IT in Nepal

[Marks: 5]

13.1 History of IT in Nepal

13.2 National Information and Communication Technology Policy,2015

13.3 Electronic Transaction Act, 2063 B.S.

13.4 Copyright Act, 2059 B.S.

13.5 Nepali Unicode, Nepali Fonts

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