

गोरखापत्र संस्थान
प्राविधिक सेवा, कम्प्युटर समूह, तह-७ वरिष्ठ कम्प्युटर अधिकृत पदको आन्तरिक
प्रतियोगितात्मक परीक्षाको पाठ्यक्रम
एवं परीक्षा योजना

पाठ्यक्रमको रूपरेखा :- यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :

प्रथम चरण :- लिखित परीक्षा पूर्णाङ्क :- १००

द्वितीय चरण :- (क) प्रयोगात्मक पूर्णाङ्क :- १००

(ख) अन्तर्वार्ता पूर्णाङ्क :- ३०

प्रथम चरण : लिखित परीक्षा

पत्र	विषय	पूर्णाङ्क	उत्तीणाङ्क	परीक्षा प्रणाली	प्रश्न संख्या X अंकभार	समय
प्रथम	कम्प्युटर सम्बन्धी	६०	३०	वस्तुगत बहुवैकल्पिक (Multiple Choice)	६० प्रश्न X १ = ६०	२ घण्टा
		४०	२०	विषयगत (Subjective)	५ X ८ = ४०	

द्वितीय चरण : प्रतियोगितात्मक र अन्तर्वार्ता

विषय	पूर्णाङ्क	उत्तीणाङ्क	परीक्षा प्रणाली	समय
(क) प्रयोगात्मक परीक्षा	१००	५०	प्रयोगात्मक	१ घण्टा
(ख) अन्तर्वार्ता	-	-	मौखिक	-

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी हुनेछ ।

२. पाठ्यक्रमको प्रथम पत्र लिखित परीक्षा तथा प्रयोगात्मक परीक्षाको विषयवस्तु एउटै हुनेछ ।

३. लिखित परीक्षा (विषयगत तथा वस्तुगत) का प्रश्न संख्या निम्नानुसार हुनेछन् ।

Course Unit	Topics	No. of Objective Questions	No of Subjective Question
1	Computer Fundamental	10	1
2	Operating System	10	1
3	Networking	5	1
4	E-commerce Technology	5	
5	MIS and Web Engineering	5	
6	Word Processing	3	
7	Electronic Spreadsheets	3	
8	Database System	3	1
9	Presentation system	3	1
10	IT in Nepal	3	
11	Adobe In design	5	
12	Graphic Design	5	
	Total:	60	5

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४. प्रयोगात्मक परीक्षाका प्रश्न संख्या निम्नानुसार हुनेछन ।

S.No	Topics	No. of Question	Marks	Time-Minutes
1	Hardware Setup	3	15	10
2	Operating System Setup	1	15	10
3	Printer Sharing/ File Sharing/ Quata Management/ Unicode setup/ User Management	3	45	20
4	Computer Networking (IP Addressing/ Router Configuration)	2	20	10
5	Computer Backup and Restore Using Team Viewer	1	5	10
	Total:-	10	100	60

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

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प्रथम पत्र :- कम्प्युटर सम्बन्धी विषय

1. Computer Fundamentals

- 1.1. Computers, Kinds of Computers in respect of size and function
- 1.2. Generation of Computers
- 1.3. Components and Architecture of Computers, Connecting the Components,
- 1.4. Getting started: Orientation to computers, system unit, Starting the computers
- 1.5. Software: Definition
 - 1.5.1. Types of Software
 - 1.5.2. Programming Language (Visual Basic Programming Language, "C" Programming Language).
 - 1.5.3. Application software: Using Application Software
- 1.6. Hardware: Definition
 - 1.1.1. Input Devices: The keyboard, The mouse, Other input devices
 - 1.1.2. Processing: CPU, Memory
 - 1.1.3. Storage devices: Overview of Storage Devices, The Floppy Disk Drive, The Hard Drive, The Universal Serial Bus(USB) Devices and Other Storage Devices
 - 1.1.4. Partition of HDD
 - 1.1.5. Output devices: Monitors, Printers, Modems, Soundboards
 - 1.1.6. Firmware, BIOS and Cache Memory
- 1.7. Dos survival guide: Using Command Prompt, Creating and using AUTOEXEC.BAT and CONFIG.SYS
- 1.8. Windows survival guide: The Windows Desktop, The Program Manager, Organizing the Desktop, The File Manager
- 1.9. Dial-Up Networking, ADSL, DSL, Router, Switch
- 1.10. Windows Explorer, E-mails, Internet, Intranet, Extranets, Ethernet, HTTP
- 1.11. Concept of Computer related threats (Virus, Worms, Trojan, Phishing etc) remedies and protection
- 1.12. Concept of Multimedia
- 1.13. File Management basic :
 - 1.13.1. Physical Structure of the disk

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- 1.13.2. Concept of File and folder
- 1.13.3. Wildcards and Pathname
- 1.13.4. Types of files and file extensions

2. Operating Systems

- 2.1. Define an Operating System, Trace the Developments in Operating Systems, Identify the functions of Operating Systems,
- 2.2. Describe the basic components of the Operating Systems, Understand Information Storage and Management Systems,
- 2.3. List Disk Allocation and Scheduling Methods, Identify the Basic Memory Management strategies, List the Virtual Memory Management Techniques, Define a Process and list the features of the Process Management System
- 2.4. Identify the Features of Process Scheduling; List the features of Inter-Process Communication and Deadlocks,
- 2.5. Identify the Concepts of Parallel and Distributed Processing, Identify Security Threats to Operating Systems
- 2.6. Overview of the MS-DOS Operating System
- 2.7. Introduction to the Windows Family of Products,
- 2.8. Introduction to Windows Networking
- 2.9. Windows Architecture
- 2.10. Troubleshooting Windows,
- 2.11. Managing Network Printing
- 2.12. Managing Hard Disks and Partitions
- 2.13. Monitoring and Troubleshooting Windows
- 2.14. Users, Groups and Permission Linux and Windows.

3. Networking

- 3.1. Basic Network Theory: Network Definition, Network Models, Connectivity, Network Addressing.
- 3.2. Network Connectivity: Data Package, Establishing a Connection, Reliable Delivery, Network Connectivity, Noise Control, Building Codes, Connection Devices.
- 3.3. Advanced Network Theory: The OSI model, Ethernet, Network Resources, Token ring, FDDI, Wireless Networking.
- 3.4. Common Network Protocols: Families of Protocols, NetBEUI, Bridge and Switches, The TCP/IP Protocol, Building TCP/IP Network, The TCP/IP Suite

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- 3.5. TCP/IP Services: Dynamic Host Configuration Protocol, DNS Name Resolution, NetBIOS support, SNMP, TCP/IP Utilities, FTP
 - 3.6. Network LAN Infrastructure: LAN Protocols on a Network, IP Routing, IP Routing
 - 3.7. Tables, Router Discovery Protocols, Data Movement in a Routed Network, Virtual LANs(VLANS)
 - 3.8. Network WAN Infrastructure: The WAN Environment, Wan Transmission Technologies, Wan Connectivity Devices, Voice Over Data Services
 - 3.9. Remote Networking: Remote Networking, Remote Access protocols, VPN Technologies.
 - 3.10. Computer Security: Computer Virus, Worm, Trojan Horse.
 - 3.11. Network Security: Introduction, Virus Protection, Local Security, Network Access, Internet Security.
 - 3.12. Disaster Recovery: The need for Disaster Recovery, Disaster Recovery plan, Data backup, Fault Tolerance.
 - 3.13. Advanced Data Storage Techniques: Enterprise Data Storage, Clustering, Network Attached Storage, Storage Area Networks.
 - 3.14. Network Troubleshooting: Using Systematic Approach to Troubleshooting.
 - 3.15. Network Support Tools: Utilities, Network Baseline, Network Access Points (NAP), Common Network Component, Common Peripheral Ports.
- 4. E-Commerce Technology**
- 4.1. Introduction to E-Commerce.
 - 4.2. Electronic Commerce Strategies.
 - 4.3. Electronic Commerce Security Issues.
 - 4.4. Success Models of E-Governance.
 - 4.5. E-Business: b2b, b2c, b2e, c2c, g2g, g2c.
 - 4.6. Principles of Electronic Payment, Strategies & Systems.
 - 4.7. E-marketing, Reverse Engineering.
 - 4.8. E-Banking, EDI Methods, SWIFT.
 - 4.9. Encryption and Decryption Methods, XML, Layout Managers, Event Model.
- 5. MIS and Web Engineering**
- 5.1. Information Systems, Client-Server Computing.
 - 5.2. Information Systems and Decision Making.

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- 5.3. Database Design issues, Data Mining, Data Warehousing
 - 5.4. Knowledge Management, The strategic use of Information Technology.
 - 5.5. Work Process Redesign (Reengineering) with Information Technology, Enterprise
 - 5.6. Resources Planning Systems, Information Systems Security, Information Privacy, Global Information Technology issues.
 - 5.7. Software Supported Demonstrations including advanced Spreadsheet topics, Software
 - 5.8. Component Based Systems (CBSE)
 - 5.9. Multimedia
 - 5.10. Object-Oriented Programming with COMS & DECOMS,
 - 5.11. Group Decision Support Systems
 - 5.12. Basics of Website Design.
- 6. Word Processing**
- 6.1. Concept of Word Processing
 - 6.2. Types of Word Processing
 - 6.3. Introduction to Word Processor
 - 6.4. Creating, Saving and Opening the documents
 - 6.5. Elements of Word Processing Environment (Menu, Toolbars, Status bar, Rulers)
 - 6.6. Copying, Moving, Deleting and Formatting Text (Font, Size, Color, Alignment, Line & Paragraph spacing)
 - 6.7. Finding and Replacing text familiar with Devnagari Fonts
 - 6.8. Creating lists with Bullets and Numbering
 - 6.9. Creating and Manipulating Tables
 - 6.10. Borders and Shading
 - 6.11. Use of Indentation and Tab Setting
 - 6.12. Creating Newspaper Style Documents using Column
 - 6.13. Inserting Header, Footer, Footnotes, Endnotes, Page Numbers, File, Page break, Section break, Graphics, Pictures, Charts, Symbols & Organizational Chart
 - 6.14. Opening and Saving different types of document
 - 6.15. Changing Default Settings
 - 6.16. Mail Merge
 - 6.17. Autocorrect, Spelling, and Grammar Checking and Thesaurus
 - 6.18. Customizing menu and toolbars

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- 6.19. Security technique of documents
- 6.20. Master Document, Cross Reference, Index, Table of Content
- 6.21. Setting Page Layout, Previewing and Printing Documents

7. Electronic Spreadsheet

- 7.1. Concept of Electronic Spreadsheet
- 7.2. Types of Electronic Spreadsheet
- 7.3. Organization of Electronic Spreadsheet application (Cells, Rows, Columns, Worksheet, Workbook, and Workspace)
- 7.4. Introduction to Spreadsheet Application
- 7.5. Creating, Opening and Saving Work Book
- 7.6. Elements of Electronic Spreadsheet Environment (Menu, Toolbars, Status bar, Rulers, Scrollbars, etc)
- 7.7. Editing, Copying, Moving, Deleting Cell contents
- 7.8. Familiar with Devnagari Fonts
- 7.9. Formatting Cells (Font, Border, Pattern, Alignment, Number and Protection)
- 7.10. Formatting Rows, Columns, and Sheets
- 7.11. Using Formula- Relative Cell and Absolute Cell Reference
- 7.12. Using basic functions
- 7.13. Generating Series
- 7.14. Changing default options
- 7.15. Sorting and Filtering data
- 7.16. Summarizing data with Sub-Totals
- 7.17. Creating chart
- 7.18. Inserting Header and Footer
- 7.19. Spell Checking
- 7.20. Customizing Menu and Toolbars
- 7.21. Importing from and Exporting into other formats
- 7.22. Pivot Table, Goal Seek, Scenario & Audit
- 7.23. Page Setting, Previewing and Printing

8. Database System

- 8.1. Introduction to Data, Database and DBMS
- 8.2. Basic Concept of Tables, Fields, Records, Relationships and Indexing
- 8.3. Introduction to database application
- 8.4. Data Types
- 8.5. Creating, Modifying & Deleting Tables and Formatting & Validating Field Data
- 8.6. Creating, Modifying, Deleting & Using Simple Queries
- 8.7. Creating, Modifying & Deleting Forms/Reports/Macros

9. Presentation System

- 9.1. Introduction to Presentation Application

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- 9.2. Creating, Opening & Saving Slides, Formatting Slides
- 9.3. Slide Show
- 9.4. Animation
- 9.5. Inserting Built-in-picture, Picture, Table, Chart, Graphs, Organizational Chart

10. IT in Nepal

- 10.1. History of IT in Nepal
- 10.2. Current IT Policy of Nepal
- 10.3. Electronic Transaction Act, 2063
- 10.4. Copyright Act, 2059
- 10.5. Uses of Computers and Software Development
- 10.6. Nepali Unicode, Nepali Fonts
- 10.7. Licensing Issue

11. Adobe In Design

- 11.1. Introduction to Adobe In Design CS6
- 11.2. Creating and Viewing Documents
- 11.3. Understanding Your Workspace
- 11.4. Pages
- 11.5. Working with Type
- 11.6. Working with Graphics
- 11.7. Formatting Objects
- 11.8. Working with Color
- 11.9. Points and Paths
- 11.10. Managing and Transforming Objects
- 11.11. Character and Paragraph Formatting
- 11.12. Using Styles
- 11.13. Tables
- 11.14. Long and Interactive Documents
- 11.15. Packaging and Printing

12. Graphic Design

- 12.1 The Principle of Graphic Design
- 12.2 Theory of Design
- 12.3 Colour and Materials
- 12.4 How to use of typography
- 12.5 History of Graphic Design