त्रिभुवन विश्वविद्यालय

इन्जिनियरिङ्ग अध्ययन संस्थान डीन कार्यालय

प्राविधिक सहायक (सूचना प्रविधि/ कम्प्युटर) को लिखित परीक्षाको पाठ्यक्रम - २०८२

❖ लिखित परीक्षाको विषय, पूर्णाङ्क, परीक्षा प्रणाली, प्रश्न संख्या, अङ्गभार, समय र उत्तीर्णाङ्क निम्नानुसार हुनेछ ।

पत्र	विषय	पूर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या	प्रति प्रश्न अङ्गभार	समय	उत्तीर्णाङ्क
प्रथम	सेवा सम्बन्धी	५०	वस्तुगत	५०	१	५० मिनेट	
		५०	विषयगत	छोटो उत्तर ४	५	१ घण्टा ३० मिनेट	
				लामो उत्तर ३	१०		

प्रथम पत्र प्रथम खण्ड :- वस्तुगत प्रश्न (Objective Questions)

❖ बहुवैकल्पिक प्रश्नको विकल्प छनौट गर्दा गलत विकल्प छानेमा ऋणात्मक मूल्याङ्कन (Negative Marking) गरिने छ । अर्थात् यसरी मूल्याङ्कन गर्दा प्रत्येक गलत उत्तरको लागि ०.२० अङ्क प्राप्ताङ्कबाट घटाइनेछ । (उदाहरणका लागि परीक्षार्थीले २० अङ्कको बहुवैकल्पिक प्रश्नमा १५ प्रश्नको सही उत्तर र ५ प्रश्नको गलत उत्तर दिएमा निजको प्राप्ताङ्क (०.२०× ५= १.००) अर्थात् १५–१= १४ अङ्क हुनेछ ।

❖ बहुवैकल्पिक परीक्षाका प्रश्नहरु प्रति प्रश्न अङ्क १ हुनेगरी निम्नानुसार हुनेछन् ।

एकाई	१	२	३	४	५	६	७	८	९
प्रश्न संख्या	१०	१०	६	३	५	५	३	३	५

प्रथम पत्र द्वितीय खण्ड :- विषयगत प्रश्न (Subjective Questions)

Units	1	2	3	4	5	6	7	8	9
No. of Questions	1	1	1		1	1		1	1
Marks of each question	10	10	5		5	5		5	10
Total Marks	10	10	5		5	5		5	10

Course Contents

1. **Fundamentals of Computer and Information Technology**
   - 1.1. Information technology and its importance
   - 1.2. Computer, its classification, uses and advantage
   - 1.3. Computer System & its components: Input units, Processing units, Output units, Memory and storage units
   - 1.4. Computer peripherals and its functions
   - 1.5. Hardware and software
   - 1.6. Operating system and its Functions, Types of operating systems (GUI, CLI)
   - 1.7. Booting and its types
   - 1.8. Customizing desktop: Taskbar, Icon, Wallpaper, Screensaver, Screen
   - 1.9. resolution, Theme, Print Screen, Capture a portion of a screen, Adjust Date and Time, Resize & Switch windows, Recycle bin, Show/hide desktop Icon, Program Shortcut
   - 1.10. Window Applications: Paintbrush, Calculator, Notepad, WordPad, Multimedia, media files, Task manager
   - 1.11. Concept of drive, files, folders and extensions
   - 1.12. Storage devices (pen drive, memory card, CD/DVD/blu-rays)
   - 1.13. Resolution, DPI & Scanner
   - 1.14. Control Panel and its use
   - 1.15. Add remove programs, device manager
   - 1.16. Maintain & optimize computer: System tools
   - 1.17. User account and its types
   - 1.18. Computer Virus and its types, effects and protection from virus
   - 1.19. Importance of windows update and firewall
   - 1.20. Backup and its importance

2. **Word Processor**
   - 2.1. Introduction to word processor, MS-Word and its components
   - 2.2. Default extension and location
   - 2.3. Creating, saving and opening documents
   - 2.4. Elements of word processor: Menu, Toolbars, Status-bar, Rulers, Scrollbars
   - 2.5. Concept of text, paragraph, graphics, charts, objects in documents
   - 2.6. Formatting text and paragraphs, Page Formatting
   - 2.7. Bookmark, Page breaks, Section break, Footnote
   - 2.8. Table of Contents, Cross reference
   - 2.9. Mail merge and its uses
   - 2.10. Inserting Pictures, Charts, Word Art, Symbols
   - 2.11. Tables in word processor, Concept of cell, row, column, table and its properties

[2]

2.12. Changing default settings

2.13. AutoCorrect, Spelling and Grammar Checking

2.14. Use of different view and windows

2.15. Using Devanagari fonts and Nepali Unicode in documents

3. **Spreadsheet**

3.1. Introduction to spreadsheet, MS-Excel and its components

3.2. Default extension and location

3.3. Organization of Spreadsheet: Cells, Rows, Columns, Worksheets, Workbooks and Workspace

3.4. Applications of spreadsheet

3.5. Spreadsheet environment: Menu, Toolbars, Status-bar, Rulers, Scrollbars

3.6. Editing, Copying, Moving, Deleting Cell contents

3.7. Cell referencing

3.8. Using formulas and basic functions

3.9. Using Devanagari fonts and Nepali Unicode in worksheets

4. **Presentation**

4.1. Introduction to presentation, MS-PowerPoint and its components

4.2. Creating presentation slides, Design and formatting presentation, Slide transitions and Animations

4.3. Inserting, Removing and Duplicating slides

5. **Computer Programming**

5.1. Programming logics, Flowchart, Algorithm and Pseudocode

5.2. C programming language

5.3. Variables and data types, Constants, Keywords, Operators

5.4. Control statements & Looping

5.5. Arrays, String and Pointer

5.6. Structure

6. **Computer Networks**

6.1. Importance of networks, Advantages and disadvantages

6.2. Types of networks, Network topology

6.3. Network architecture, Reference models (OSI, TCP/IP)

6.4. Transmission medium (Cable, Wireless)

6.5. Network cable types and properties

6.6. Jack, Connector, Clamper

6.7. IP addresses, Class A, B, C, D & E

6.8. Subnet mask

6.9. Private and Public address

6.10. Network Devices: NIC, Modem, Hub, Repeater, Bridge, Router

[3]

7. **Database Management System**
   - 7.1. Database systems
   - 7.2. Data models
   - 7.3. Relational Database Model (RDBMS)
   - 7.4. Entity Relationship (ER) Modeling
   - 7.5. Normalization

8. **Recent IT Trends and Terminologies**
   - 8.1. Artificial Intelligence
   - 8.2. E-Governance
   - 8.3. E-commerce
   - 8.4. Online meeting / class

9. **Tribhuvan University**
   - 9.1. TU Executive Council, Formation, Roles and Responsibilities
   - 9.2. TU Service Commission, Formation, Roles and Responsibilities
   - 9.3. TU Rules & Regulations, Teacher/Staff Services: Roles and Responsibilities of a TU staff, Leave & other facilities for a TU staff

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प्रयोगात्मक प्रश्न (Practical Questions)

❖ पूर्णाङ्क ३० को प्रयोगात्मक परीक्षामा प्रश्नहरु तथा अङ्कहरु निम्नानुसार हुनेछन् ।

S.N.	Topic	No. of question	Marks
1	PC configuration, Installation of OS, Application programs setup and removal, Setup a local printer/network printer	1	6
2	Basic troubleshooting of a network and Internet connection, E-mail, Hosting an online meeting or class	1	6
3	English and Nepali Typing	2	3+3
4	Word Processor	1	6
5	Spreadsheet	1	4
6	Presentation	1	2
	Total	7	30

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