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ZANZIBAR EXAMINATION COUNCIL

FORM THREE ENTRANCE EXAMINATION, 2015

063   **INFORMATION AND COMPUTER STUDIES**

Time: 2:30 Hours.   **ANSWER**

INSTRUCTIONS TO CANDIDATES

1. This paper consists of Three (3) sections A, B and C.

2. Answer **ALL** questions from Section A and B and **ONLY ONE** questions from section C

3. Write your examination number on each page.

4. Write all answers on the space provided.

5. Use a blue or black pen in writing. Drawings must be in pencil.

6. Cellular phones and unauthorized materials are not allowed in the examination room.

Question number	THIS PART FOR EXAMINER'S ONLY	
	MARKS	**SIGNATURE**
1.		
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TOTAL		

SECTION A (15 Marks)

Attempt ALL questions from this section.

1. Choose the letter of the correct answer and write it in the table provided.

i) Which one of the following is not a computer virus?

A. Trojan horse

B. Worm

C. Spyware

D. Antivirus

The correct answer is D: Antivirus.

Antivirus is software designed to detect and remove viruses, whereas Trojan horses, worms, and spyware are types of malicious software.

ii) The main component of a computer that performs all calculations is the:

A. RAM

B. ALU

C. Control Unit

D. Hard disk

The correct answer is B: ALU.

The Arithmetic Logic Unit (ALU) is a part of the CPU that performs arithmetic and logical operations. The control unit manages data flow, RAM stores temporary data, and the hard disk is for permanent storage.

iii) The term LAN stands for:

A. Local Area Network

B. Large Area Network

C. Long Access Network

D. Logical Area Network

The correct answer is A: Local Area Network.

LAN is a network that connects computers within a small geographical area, such as an office or school.

iv) Which of the following is a type of secondary storage?

A. RAM

B. ROM

C. CPU

D. Hard disk

The correct answer is D: Hard disk.

Hard disks are permanent storage devices. RAM and ROM are primary memory, and the CPU is the processing unit.

v) The process of starting a computer from a powered-off state is called:

A. Cold booting

B. Warm booting

C. Rebooting

D. Hibernating

The correct answer is A: Cold booting.

Cold booting is starting the computer from a completely powered-off state. Warm booting occurs when restarting without switching off the power.

vi) A software that is designed to protect a computer from viruses and other malware is:

A. Word processor

B. Antivirus software

C. Spreadsheet program

D. Operating system

The correct answer is B: Antivirus software.

Antivirus software detects, prevents, and removes malware to protect the system.

vii) What is a collection of related data stored in a file called?

A. A database

B. A record

C. A field

D. A table

The correct answer is A: A database.

A database stores related information systematically. Records are individual entries, fields are data categories, and tables organize records.

viii) The term online banking refers to:

A. Using a credit card

B. Visiting a bank branch

C. Performing financial transactions over the internet

D. Withdrawing cash from an ATM

The correct answer is C: Performing financial transactions over the internet.

Online banking allows account management and transactions remotely without visiting the branch.

ix) Which of these is a function of the Control Unit in the CPU?

A. Storing data

B. Performing arithmetic calculations

C. Directing the flow of data

D. Displaying output on the screen

The correct answer is C: Directing the flow of data.

The control unit coordinates and manages data flow between CPU components. Arithmetic calculations are done by the ALU, and storage/output are handled elsewhere.

x) A software license agreement that allows a single user to install and use the software is called:

A. Site license

B. Single-user license

C. Open source license

D. Freeware

The correct answer is B: Single-user license.

This license permits only one installation for one user, unlike a site license, which allows multiple installations.

2. Match the terms in Column A with their descriptions in Column B.

i. Scanner → D: A device that converts a physical document into a digital file.

ii. Ergonomics → C: The science of designing and arranging workplace items for comfort and efficiency.

iii. Virus → B: A piece of code that can replicate itself and spread to other computers.

iv. Blog → E: A personal website or web page where a person writes their opinions.

v. Database → A: An application for storing and managing large amounts of data.

SECTION B (75 Marks)

Attempt ALL questions from this section.

3. a) Distinguish between analog data and digital data.

   Analog data is continuous and represents information in physical quantities like sound or temperature.

   Digital data is discrete and represents information using binary numbers (0s and 1s).

   b) Give two (2) examples of devices that work with analog data and two (2) with digital data.

   Analog devices: Thermometer, analog microphone.

   Digital devices: Digital camera, computer.

   c) What is a digitizer?

   A digitizer is a device that converts analog signals or physical input, such as drawings or text, into digital format that computers can process.

4. a) State three (3) different types of computers based on their size and purpose.

   Desktop computer, laptop, supercomputer.

   b) Explain two (2) differences between a desktop computer and a supercomputer.

   Desktops are designed for individual use; supercomputers are designed for large-scale computations.

   Desktops have limited processing power; supercomputers have extremely high processing capacity and speed.

   c) Mention two (2) typical uses of a supercomputer.

   Weather forecasting and scientific simulations.

5. a) Explain the purpose of a computer power supply unit (PSU).

   The PSU converts mains electricity to low-voltage regulated power for internal computer components.

b) State any three (3) external ports found on the back of a system unit.

USB port, HDMI port, Ethernet port.

c) Briefly explain the difference between a bus and a port.

A bus is a communication pathway that transfers data internally between components, while a port is an external interface for connecting peripheral devices.

6. a) What is a user account in a computer system?

A user account is a collection of settings and permissions that define how a user can access and use a computer system.

b) Explain the difference between a standard user account and an administrator account.

A standard account has limited privileges for daily use, while an administrator account can install software, change settings, and manage other accounts.

c) State two (2) reasons why it is important to have multiple user accounts on a shared computer.

To ensure security by limiting access to sensitive data.

To allow personalized settings and files for each user.

7. a) What is online privacy?

Online privacy is the protection of personal information and activities from being accessed or shared without consent over the internet.

b) Explain two (2) reasons why it is important to protect your personal information online.

To prevent identity theft and financial fraud.

To maintain confidentiality and personal security.

c) Mention three (3) potential risks of not protecting your online privacy.

Identity theft, financial loss, cyberstalking or harassment.

8. a) Define social media.

Social media refers to online platforms that enable users to create, share, and interact with content or social networks.

b) Give two (2) examples of social media platforms.

Facebook, Twitter.

c) Analyze two (2) advantages and two (2) disadvantages of using social media.

Advantages: Facilitates communication and networking; allows access to news and educational content.

Disadvantages: Privacy risks; potential for spreading misinformation.

9. a) Explain what a computer peripheral is.

   A computer peripheral is an external device connected to a computer to expand its functionality, such as input, output, or storage.

   b) State the main function of the following peripherals:

   i. Scanner – Converts physical documents into digital format.

   ii. Plotter – Produces large-scale graphics or engineering drawings.

   c) Differentiate between an impact printer and a non-impact printer.

   Impact printers strike the paper directly to print (e.g., dot matrix), while non-impact printers use non-contact methods like inkjet or laser.

10. a) What is data backup?

    Data backup is creating a copy of important data to prevent loss in case of system failure or accidental deletion.

    b) State two (2) reasons for performing data backup.

    To recover lost data after hardware failure.

    To protect against accidental deletion or corruption.

    c) List two (2) types of external storage devices used for data backup.

    External hard drive, USB flash drive.

SECTION C (10 Marks)

Attempt ONLY ONE (1) question from this section.

11. A company uses a spreadsheet to track the monthly expenses of four different departments.

a) Write a formula to calculate the total expenses for the Sales department in cell E2.

=SUM(B2:D2)

b) What formula would you use to find the average expenses for all departments in January?

=AVERAGE(B2:B5)

c) What is the formula to find the minimum expense incurred in February?

=MIN(C2:C5)

d) Write a formula to calculate the total expenses for the entire company for the three months.

=SUM(B2:D5)

12. a) Define the term internet.

The internet is a global network of interconnected computers that enables communication, information sharing, and access to online resources.

b) Differentiate between a Hub and a Router.

A hub broadcasts data to all connected devices without filtering, while a router directs data between networks and manages traffic efficiently.

c) Briefly explain any three (3) benefits of having a LAN in a work organization.

Facilitates sharing of files and resources like printers.

Enhances communication and collaboration among employees.

Reduces cost by centralizing hardware and data management.

d) Analyze any three (3) factors to be considered when choosing an Internet Service Provider.

Connection speed and bandwidth to meet organizational needs.

Reliability and uptime guarantee.

Cost and availability of technical support.