candidate's Number .....

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ZANZIBAR EXAMINATION COUNCIL

FORM THREE ENTRANCE EXAMINATION, 2007

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.

	THIS PART FOR EXAMINER'S ONLY	
Question number	**MARKS**	**SIGNATURE**
1.		
2.		
3.		
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6.		
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11.		
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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 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.

A hard disk is secondary (non-volatile) storage used for long-term data retention. RAM is primary memory, ROM is firmware storage but not typically classified as secondary storage for user data, and CPU is the processor, not storage.

ii) The device used to connect two different networks is a:

A. Hub

B. Router

C. Switch

D. Repeater

The correct answer is B. Router.

A router directs data packets between different networks and chooses the best path for data to travel. A hub and switch operate within a single local network, and a repeater simply amplifies signals.

iii) A program that helps in the creation and manipulation of images and graphics is a:

A. Word processor

B. Spreadsheet program

C. Graphics software

D. Database program

The correct answer is C. Graphics software.

Graphics software is specifically designed to create, edit, and manipulate images and graphical content.

Word processors handle text, spreadsheets handle numerical/tabular data, and databases manage structured records.

iv) The process of saving a file for the first time on a computer is called:

A. Saving

B. Saving As

C. Printing

D. Deleting

The correct answer is B. Saving As.

When you save a file for the first time you usually use "Save As" to provide a file name and location. "Save" is used for subsequent saves, printing outputs to paper, and deleting removes the file.

v) Which of the following is not a common web browser?

A. Microsoft Edge

B. Firefox

C. Adobe Photoshop

D. Google Chrome

The correct answer is C. Adobe Photoshop.

Adobe Photoshop is an image editing application, not a web browser. Microsoft Edge, Firefox, and Google Chrome are popular web browsers used to access websites.

vi) What is the main advantage of using a fiber optic cable over a copper cable?

A. It is cheaper to install

B. It is more flexible

C. It is immune to electromagnetic interference

D. It carries less data

The correct answer is C. It is immune to electromagnetic interference.

Fiber optic cables use light to transmit data and are not affected by electromagnetic interference, which makes them suitable for long-distance, high-bandwidth transmission. They are typically more expensive and require careful handling.

vii) The term cyberspace refers to:

A. The physical space inside a computer

B. The virtual world of computers and networks
C. The space between computers in a network
D. A type of computer memory

The correct answer is B. The virtual world of computers and networks.
Cyberspace describes the non-physical environment created by interconnected computers and networks, where digital communication and interaction occur.

viii) 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 the operations of the CPU, directing how data moves between components and how instructions are executed. Arithmetic calculations are mainly performed by the ALU, storing data involves registers and memory, and displaying output is done by output devices.

ix) The term online refers to a user being:
A. Connected to the internet
B. Using a computer
C. Watching a movie
D. Running a program

The correct answer is A. Connected to the internet.
Being online means having an active connection to a network such as the internet, enabling communication and access to web resources. Using a computer, watching a movie, or running a program do not necessarily imply an internet connection.

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.

A single-user license grants permission for one user to install and use the software, while a site license covers multiple installations at an organization, open source relates to source code availability, and freeware concerns cost rather than licensing scope.

2. Match the terms in Column A with their descriptions in Column B. Write the letter of the correct response in the table below.

COLUMN A

i. Scanner

ii. Ergonomics

iii. Virus

iv. Blog

v. Database

COLUMN B

A. An application for storing and managing large amounts of data.

B. A piece of code that can replicate itself and spread to other computers.

C. The science of designing and arranging workplace items for comfort and efficiency.

D. A device that converts a physical document into a digital file.

E. A personal website or web page where a person writes their opinions.

F. The process of starting a computer.

G. An application that handles numbers and calculations.

Answers:

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

A scanner captures images or text from paper and converts them into digital formats for storage or editing.

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

Ergonomics focuses on designing workspaces and tools that reduce strain and increase productivity and safety.

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

A computer virus attaches to programs or files and replicates when conditions allow, potentially causing harm.

iv. Blog → E. A personal website or web page where a person writes their opinions.
A blog is a regularly updated web page where the author posts articles, opinions, or information.

v. Database → A. An application for storing and managing large amounts of data.
A database system stores structured data and provides tools for querying, updating, and managing that data.

Section B: (75 Marks)

Attempt ALL questions from this section.

3. a) Distinguish between **analog data** and **digital data**.
   Analog data represents information in continuous signals or physical quantities, such as sound waves or temperature readings, where values vary smoothly over a range. Digital data represents information in discrete binary form, using sequences of 0s and 1s, making it easier to store, process, and transmit without degradation.

   b) Give two (2) examples of devices that work with analog data and two (2) with digital data.
   Devices that work with analog data include microphones, which capture continuous sound waves, and analog thermometers that show a continuous temperature scale. Devices that work with digital data include digital cameras, which record images as binary files, and computers, which process and store information in discrete digital form.

   c) What is a **digitizer**?
   A digitizer is a device that converts analog information into a digital format, for example a graphics tablet that converts pen strokes into digital coordinates, or an analog-to-digital converter that samples analog signals and produces digital values.

4. a) State three (3) different types of computers based on their size and purpose.
   Three types are microcomputers (personal desktops and laptops used by individuals), mainframe computers (large, powerful systems that handle massive processing for organizations), and supercomputers (extremely powerful machines designed for high-performance scientific calculations and simulations).

   b) Explain two (2) differences between a **desktop computer** and a **supercomputer**.
   A desktop computer is built for individual use, with modest processing power, limited parallelism, and

consumer-grade components; a supercomputer contains thousands of processors designed for massive parallel processing and scientific workloads.
A desktop is affordable and suitable for office or home tasks, while a supercomputer is extremely costly, used for specialized research tasks like climate modeling or molecular simulations.

c) Mention two (2) typical uses of a supercomputer.
Supercomputers are used for complex scientific simulations such as weather forecasting and climate modeling, and for computational tasks in physics, chemistry, or genomics that require processing huge datasets and performing large-scale numerical calculations.

5. a) Explain the purpose of a **computer power supply unit (PSU)**.
   A PSU converts alternating current (AC) from the mains into regulated direct current (DC) voltages required by computer components, supplying stable, appropriate voltages to the motherboard, drives, and peripherals to ensure proper operation.

   b) State any three (3) external ports found on the back of a system unit.
   Three common external ports are USB ports for peripherals such as mice and flash drives, HDMI or VGA ports for video output to monitors, and Ethernet ports for wired network connections.

   c) Briefly explain the difference between a **bus** and a **port**.
   A bus is an internal pathway or set of signal lines that carries data between components inside the computer, such as the system bus connecting CPU, memory, and I/O. A port is an external interface on the system unit where peripheral devices can be plugged in to communicate with the computer.

6. a) What is a **user account** in a computer system?
   A user account is a personalized profile that identifies a particular user to the system, containing credentials, preferences, and access permissions that define what resources and operations the user is allowed to perform.

   b) Explain the difference between a **standard user account** and an **administrator account**.
   A standard user account has limited privileges and cannot make system-wide changes, install certain software, or alter other users' settings. An administrator account has elevated permissions to install software, change security settings, manage user accounts, and perform system maintenance.

   c) State two (2) reasons why it is important to have multiple user accounts on a shared computer.
   Multiple user accounts help protect privacy by keeping each user's files and settings separate, and they

enhance security by limiting privileges for standard users while reserving administrative tasks for authorized personnel.

7. a) What is **online privacy**?

   Online privacy refers to the right and practices that protect personal information while using the internet, including controlling what data is shared, with whom it is shared, and how it is stored and used by online services.

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

   Protecting personal information reduces the risk of identity theft and financial fraud, and it prevents misuse of sensitive data that could harm reputation or lead to targeted scams and phishing attacks.

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

   Risks include identity theft, financial loss from unauthorized transactions, and exposure to harassment or blackmail if personal or sensitive information is leaked.

8. a) Define **social media**.

   Social media are online platforms and applications that enable users to create, share, and interact with content and to connect and communicate with other users in networks or communities.

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

   Two examples are Facebook and Twitter (now X), which allow users to post content, follow others, and engage in social interactions.

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

   Advantages: social media facilitates easy communication and information sharing, enabling communities and quick dissemination of news; it also offers marketing and networking opportunities for individuals and businesses.

   Disadvantages: social media can spread misinformation rapidly, and it may negatively affect mental health through cyberbullying or addictive usage patterns.

9. a) Explain what a **computer peripheral** is.

   A computer peripheral is an external device connected to a computer to provide input, output, or storage functions, such as keyboards, mice, printers, scanners, or external drives.

b) State the main function of the following peripherals:

i. Scanner

A scanner converts physical documents or images into digital files so they can be stored, edited, or shared electronically.

ii. Plotter

A plotter is an output device that draws high-precision vector graphics on large-format paper, commonly used for engineering drawings, CAD plots, and architectural plans.

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

An impact printer produces characters by physically striking an ink ribbon onto paper, examples include dot-matrix printers, and they are noisy but durable for multipart forms. A non-impact printer, such as inkjet or laser, uses non-mechanical processes like spraying ink or using toner fused by heat, yielding quieter operation and higher print quality.

10. a) What is **data backup**?

    Data backup is the process of creating copies of important files and information so that they can be restored in case of data loss, corruption, or system failure.

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

Backups protect against accidental deletion and hardware failure, and they ensure business continuity by allowing recovery from malware attacks or system corruption.

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

Two types are external hard disk drives, which offer large capacity and fast transfer speeds, and USB flash drives, which are portable and convenient for smaller backups.

Section C: (10 Marks)

Attempt ONLY ONE (1) question from this section.

11. a) Define the term **web page**.

    A web page is a single document on the World Wide Web, usually written in HTML, that can contain text, images, links, and multimedia, and is identified by a unique URL.

b) Differentiate between a **website** and a **web page**.

A website is a collection of related web pages hosted under a common domain, forming a whole online presence, while a web page is an individual document within that site.

c) Briefly explain the purpose of a **Uniform Resource Locator (URL)**.

A URL specifies the address of a web resource on the internet so that browsers can locate and retrieve a particular web page or file.

d) What is a **homepage**?

A homepage is the main or introductory page of a website, often serving as the starting point for navigation and providing links to other pages within the site.

12. a) What is an **information system**?

An information system is an organized set of components for collecting, storing, processing, and distributing information, supporting decision-making and coordination within an organization.

b) List the five (5) components of an information system.

The five components are hardware, software, data, people, and procedures, each playing a role in how information is processed and used.

c) Briefly explain the importance of a well-designed information system for an organization.

A well-designed information system improves efficiency by automating processes, supports better decision-making through timely and accurate data, enhances communication across departments, and increases the organization's ability to respond to changes and manage resources effectively.