candidate's Number .....

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ZANZIBAR EXAMINATION COUNCIL

FORM THREE ENTRANCE EXAMINATION, 2006

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.		
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11.		
12.		
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 considered the brain of the computer?

A. RAM

B. Hard disk

C. CPU

D. Motherboard

The correct answer is C: CPU.

The CPU (Central Processing Unit) processes instructions and performs calculations, making it the brain of the computer.

ii) A device that translates digital signals from a computer into analog signals for transmission over phone lines is a:

A. Router

B. Switch

C. Hub

D. Modem

The correct answer is D: Modem.

A modem converts digital signals to analog for transmission over phone lines and vice versa.

iii) The term "open source" software means:

A. It is free to use and distribute

B. It is expensive and copyrighted

C. Its source code is available to the public

D. It can only be used by one person

The correct answer is C: Its source code is available to the public.

Open-source software allows users to view, modify, and distribute the source code freely.

iv) The process of saving a file that has already been saved with a new name or location is called:

A. Save

B. Save As

C. Print

D. Close

The correct answer is B: Save As.

"Save As" allows the user to save an existing file under a new name or in a different location.

v) Which of the following is not a common type of network?

A. LAN

B. WAN

C. PAN

D. SAN

The correct answer is D: SAN.

LAN (Local Area Network), WAN (Wide Area Network), and PAN (Personal Area Network) are common; SAN (Storage Area Network) is specialized.

vi) A software that manages all the hardware and software resources of a computer is a:

A. Application software

B. Utility program

C. Operating system

D. Word processor

The correct answer is C: Operating system.

The operating system coordinates hardware and software to allow the computer to function effectively.

vii) What is a collection of related fields in a database called?

A. Table

B. Record

C. File

D. Database

The correct answer is B: Record.

A record is a single entry in a table containing related fields.

viii) The term multimedia refers to:

A. Using a single application

B. The combination of text, graphics, audio, and video

C. Running a single program

D. Using a single computer

The correct answer is B: The combination of text, graphics, audio, and video.

Multimedia integrates multiple forms of media to enhance communication and learning.

ix) Which of these is a function of the Arithmetic Logic Unit (ALU)?

A. Storing data

B. Performing mathematical and logical operations

C. Controlling the flow of data

D. Displaying output

The correct answer is B: Performing mathematical and logical operations.

The ALU handles all arithmetic calculations and logical comparisons in the CPU.

x) A set of instructions given to a computer to perform a specific task is a:

A. Hardware

B. Software

C. Data

D. Device

The correct answer is B: Software.

Software refers to programs and instructions that direct the computer to perform tasks.

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

i. Desktop → F: The main screen of a computer when you log in.

ii. Ergonomics → A: The study of workplace design to maximize comfort and efficiency.

iii. Malware → D: A program designed to cause harm to a computer.

iv. Browser → C: A software used to access the internet.

v. Database → B: A program used to create, store, and manage large amounts of data.

SECTION B (75 Marks)

Attempt ALL questions from this section.

3. a) Distinguish between analog and digital signals.
   Analog signals are continuous and vary smoothly over time, while digital signals have discrete values, usually represented as 0s and 1s.

   b) Give two (2) examples of devices that use each type of signal.
   Analog: Microphone, Thermometer
   Digital: Computer, Digital camera

   c) Why are computers considered digital devices?
   Computers process and store data in discrete binary form (0s and 1s), making them digital devices.

4. a) Explain what a computer peripheral is.
   A peripheral is an external device that connects to a computer to provide input, output, or additional functionality.

   b) Give four (4) examples of computer peripherals.
   Keyboard, Mouse, Printer, Scanner

   c) What is the main difference between an input peripheral and an output peripheral?
   Input peripherals send data to the computer, while output peripherals receive data from the computer to display or produce results.

5. a) Define computer maintenance.
   Computer maintenance is the process of keeping computer hardware and software in good working condition to ensure performance and longevity.

   b) Mention three (3) reasons why it is important to perform computer maintenance.
   Prevent hardware failure, protect data, and improve system performance.

   c) What is the purpose of a disk defragmenter?
   A disk defragmenter reorganizes fragmented data on a hard drive to improve access speed and efficiency.

6. a) What is a network topology?
   Network topology refers to the arrangement of devices and cables in a computer network.

   b) Draw a simple diagram of a Ring topology.
   [Since diagrams cannot be drawn here, imagine a circular connection where each device is connected to two neighbors forming a closed loop.]

   c) State one (1) advantage and one (1) disadvantage of a Ring topology.
   Advantage: Data travels in one direction, reducing collisions.
   Disadvantage: Failure of one device can disrupt the entire network.

7. a) Explain the term cybercrime.
   Cybercrime is illegal activity conducted using computers or the internet, targeting data, systems, or individuals.

   b) Give two (2) examples of cybercrime.
   Hacking, Identity theft

   c) Briefly describe the concept of phishing.
   Phishing is a fraudulent attempt to obtain sensitive information like passwords or credit card details by disguising as a trustworthy source.

8. a) Define the following terms:
   i. E-commerce: Buying and selling goods or services online.
   ii. E-learning: Using electronic media and technologies to access educational content remotely.

   b) State two (2) benefits of e-commerce.
   Convenience of shopping from anywhere, wider market reach for businesses.

   c) What is the main difference between B2B and B2C e-commerce?
   B2B (Business-to-Business) involves transactions between businesses, while B2C (Business-to-Consumer) involves businesses selling directly to individual consumers.

9. a) Explain the difference between Application Software and System Software.
   Application software performs specific tasks for users, while system software manages and controls computer hardware and provides a platform for applications.

b) Give two (2) examples of each.

Application: Microsoft Word, Photoshop

System: Windows OS, Linux

c) What is a user interface?

A user interface is the point of interaction between the user and the computer system, allowing users to input commands and receive feedback.

10. a) Explain the term data security.

Data security involves protecting data from unauthorized access, corruption, or theft.

b) Mention three (3) common threats to data security.

Viruses, hacking, phishing attacks

c) Briefly describe the purpose of an antivirus program.

An antivirus program detects, prevents, and removes malicious software to protect the computer and its data.

SECTION C (10 Marks)

Attempt ONLY ONE (1) question from this section.

11. A teacher uses a spreadsheet to manage student marks.

a) Write a formula to calculate the total marks for each student in column E.

= B2 + C2 + D2

b) What formula would you use in cell G2 to find the average marks for John?

=AVERAGE(B2:D2)

c) Write a formula to find the maximum mark in the Science subject.

=MAX(C2:C6)

d) What formula would you use to find the average mark for the entire class for all subjects?

=AVERAGE(B2:D6)

12. a) What is a word processor?

A word processor is software used for creating, editing, formatting, and printing text documents.

b) Differentiate between the following terms as used in a word processor:

i. Undo and Redo: Undo reverses the last action, while Redo reinstates an action that was undone.

ii. Copy and Cut: Copy duplicates the selected content, while Cut removes it for pasting elsewhere.

iii. Font and Font size: Font is the style of text, while font size determines the height of the characters.

c) Briefly explain the purpose of the Status Bar in a word processor window.

The Status Bar displays information about the document, such as page number, word count, and current editing mode.