

THE UNITED REPUBLIC OF TANZANIA
PRIME MINISTER'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT



SENGEREMA DISTRICT COUNCIL
FORM ONE TERMINAL JOINT EXAMINATION

COMPUTER SCIENCE-MARKING GUIDE

SECTION A: MULTIPLE CHOICE QUESTIONS -15 MARKS

1. Multiple Choice Questions (1 Mark @ Total 10 Marks)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
B	C	A	C	B	A		B	C	B

2. Matching Items Questions (1 Mark @ Total -5 Marks)

(i)	(ii)	(iii)	(iv)	(v)
B	C	D	A	E

SECTION B (70 Marks)

3. Differentiate between the following terms: (4 Marks @ Total-12 Marks)

(i) Computer System vs. Computer Software:

- **Computer System:** Is the complete, integrated unit comprising hardware components, software programs, user infrastructure, and peripheral connections working collectively to accept, process, store, and output data.
- **Computer Software:** Refers strictly to the collection of non-physical, electronic instructions, code procedures, and programs that dictate precisely how the computer hardware should carry out instructions.

(ii) Central Processing Unit (CPU) vs. Arithmetic Logical Unit (ALU):

- **Central Processing Unit (CPU):** The main administrative "brain" of the computer containing multiple sub-units (including the Control Unit and registers) responsible for fetching, decoding, and executing data instructions.
- **Arithmetic Logical Unit (ALU):** A specialized *sub-component inside the CPU* tasked solely with executing mathematical math functions and logical comparison problems.

(iii) RAM vs. ROM:

- **RAM (Random Access Memory):** Primary memory that is **volatile** (loses stored content instantly when electricity is severed) and supports both read and write dynamic processing.
- **ROM (Read-Only Memory):** Primary memory that is **non-volatile** (retains basic firmware configurations permanently even without electricity) and typically supports read-only functions during boot-up.

(iv) Output vs. Input Devices:

- **Input Devices:** Hardware components used to feed raw data, external human coordinates, or background files into the computer system (e.g., Keyboard, Scanner).
- **Output Devices:** Hardware components designed to translate processed information from digital data streams into human-understandable media representations (e.g., Monitor, Printer, Projector).

4. Concept Explanations & Components (14 Marks)

(a) Term Relationships: 3 marks @

- **(i) Information Technology (IT):** The general study, application, or use of computers, telecommunications equipment, software systems, and data infrastructures to securely build, handle, protect, and process structural data.
- **(ii) Information and Communication Technology (ICT):** An extended umbrella term highlighting the integration of unified communications (like cellular networks, internet infrastructure, audio-visual devices) working side-by-side with modern computing hardware to give users access to information.
- **(iii) Information System:** A structured set of components (including hardware, software, personnel networks, procedures, and data repositories) that interact directly to gather, organize, distribute, and manage information within an institution.

(b) Four Fundamental Components of a Computer System: 4 marks @

- **(i) Hardware:** The physical, solid, tangible mechanical parts of the computer (e.g., System Unit, peripherals).
- **(ii) Software:** The invisible digital files, code routines, operational software systems, and applications executing processing operations.
- **(iii) Liveware (User):** The human operating the machines, executing application prompts, providing commands, or engineering data systems.
- **(iv) Data / Information:** The raw, unorganized items (or the finalized processed structured knowledge outputs) fed into the computer system pipeline for work tracking.

5. Practical Hardware Identification (10 Marks)

(a) Explanation for a Grandmother: 2.5 Marks @

- **Keyboard:** Explain it like an advanced typewriter. It has buttons with letters and numbers on it, and when you push a button, that letter instantly pops up on the television screen.
- **Barcode Reader:** Explain it like a digital electronic eye. It shines a red beam of light at the black-and-white lines printed on store items to instantly read the name and price of an item without typing it by hand.

(b) Two internal components found inside the System Unit: (Accept any two 2.5 marks @)

- Central Processing Unit (CPU) / Microprocessor chip.
- Motherboard (Main Circuit Board).
- RAM Modules (Random Access Memory sticks).
- Hard Disk Drive (HDD) or Solid State Drive (SSD).
- Power Supply Unit (PSU).

6. Memory & Data Loss Scenarios (10 Marks)

(a) Memory Type and Reason for Disappearance: 2.5 marks @

- **Memory Type: RAM** (Random Access Memory) / Volatile primary storage.
- **Reason:** RAM is a volatile memory medium. It relies completely on a steady electrical current to maintain its magnetic/electronic gate tracking. Once the power cord was pulled, the temporary storage cells lost power, clearing all unsaved items instantly.

(b) Two storage devices to save work permanently: (Accept any two 2.5 Marks @)

- Hard Disk Drive (Internal/External HDD).
- Flash Disk (USB Drive).
- Solid State Drive (SSD).
- Memory Card (SD Card).

7. Computer Classification (10 Marks)

(a) Computer Classification Definition: 2 marks

- The structural categorizing of computers into distinct groups based on specific shared properties, such as their historical processing technology era (generation), fundamental operational data type (analog/digital), size, overall computational power, or target application use cases.

(b) Classification based on Performance: (2 Marks @)

- **Supercomputers:** The fastest, most powerful, and most expensive computers available. They handle intensive data operations like weather tracking or military simulations.
- **Mainframe Computers:** Large, high-capacity systems designed to process critical, massive bulk calculations simultaneously for thousands of connected users in banks, insurance firms, and government offices.
- **Minicomputers (Midrange):** Medium-scale computers containing lower processing capabilities than mainframes, commonly utilized to handle multi-user processing in mid-sized commercial servers.
- **Microcomputers (Personal Computers):** The most common, smallest, and least expensive group meant for single users. Examples include desktop systems, laptops, and tablets.

8. Structural Interdependence & CPU Sub-units (14 Marks)

(a) A candidate should give out the reason why Hardware and Software cannot be separated: (2 marks)

- They share a mutually dependent relationship. Computer hardware acts as the physical body/vehicle but remains completely inert, useless, and "dead" without software

instructions to tell it what to do. Conversely, software is merely abstract electronic code that requires physical hardware components to run its instructions and produce results.

(b) Two functions of the following CPU internal parts: 3 marks @

- **(i) Arithmetic Logic Unit (ALU):**
 1. Performs mathematical arithmetic calculations (such as addition, subtraction, multiplication, and division).
 2. Conducts data logical comparison operations (such as matching values to find if something is equal to, greater than, or less than another variable).
- **(ii) Control Unit (CU):**
 1. Directs, supervises, and coordinates the sequential flow of data and instructions between the CPU and other devices.
 2. Manages the core processor execution loop (Fetches instructions from memory, decodes them, and routes them to the ALU or memory registers).

9. Laboratory Rules & Shutdown Protocols (10 Marks)

(a) Four Computer Laboratory Rules and Policies: (Accept any four 1 mark @)

1. Never enter the computer laboratory with food, snacks, or drinks to prevent sticky spills on electronics.
2. Avoid liquid spills or playing near electrical sockets and cables to prevent shock risks.
3. Do not run, push, or engage in horseplay inside the laboratory.
4. Always cover computers with dust covers after shutting them down to prevent environmental dust damage.
5. Avoid inserting unauthorized external flash drives without teacher permission to prevent virus spreads.
6. Maintain silence and order to facilitate safe teaching.

(b) Impact of Forceful Shutdown 3 Marks

- **Impact of Stella's actions:** Cutting power abruptly can corrupt active operating system software files, cause permanent hardware damage to spinning hard disk sectors, and cause users to lose critical data in progress.
- **Proper Steps of Shutting Down a Computer: 0.5 mark @**
 1. Close all active software application programs currently running on screen.
 2. Navigate the mouse cursor to the **Start Menu** button on the bottom left screen corner.
 3. Click the **Power** icon options list.
 4. Select and click **Shut Down**.
 5. Wait quietly until the system unit completely goes silent and the monitor light switches to standby mode.
 6. Turn off the monitor power button safely.

SECTION C (15 Marks)

10. A candidate should explain real-Life Application of Computer Studies (15 Marks)

Introduction- 1.5 marks

Computer studies has shifted from being an optional technical subject to becoming a vital life skill. In today's digital global market, computing devices run everything from commerce to communication, making digital literacy essential.

Core Body Paragraph 1: Three Effects of Not Studying Computer Studies -2 marks @

- **Digital Illiteracy and Unemployment:** Most jobs today require a basic understanding of word processors and internet tools. Students who avoid computer studies face a major disadvantage in the job market.
- **Vulnerability to Cyber Risks:** Individuals who do not study basic computer principles often struggle to spot internet scams, viruses, and phishing traps, leaving their data exposed.
- **Inability to Access Modern Services:** Many essential services—including banking, online learning, and government portals—have gone digital. A lack of computer skills locks people out of these convenient resources.

Core Body Paragraph 2: Three Ways Students Can Improve Computer Skills 2 marks @

- **Consistent Practice during Lab Sessions:** Students should actively use school computers during practical classes instead of relying only on textbooks.
- **Using Self-Directed Online Resources:** Utilizing free tutorials, educational programs, and typing software helps students build confidence outside the classroom.
- **Joining School Computer Clubs:** Participating in collaborative computer clubs gives students a space to practice troubleshooting, peer-to-peer learning, and creative projects.

Conclusion 1.5 marks (Any acceptable conclusion)

Skipping computer studies can lead to job market challenges and difficulties navigating today's digital world. By dedicating more time to hands-on practice, students can build the skills they need to thrive.