



CHRISTIAN SOCIAL SERVICES COMMISSION

An Ecumenical Body of Tanzania Episcopal Conference and Christian Council of Tanzania

P.O. Box 9433, Dar es Salaam, Tanzania

CSSC SOUTHERN HIGHLAND ZONE

COMPUTER SCIENCE MARKING SCHEME

SECTION A (15 Marks)

QUESTION 1

LIST A	i	ii	iii	iv	v
LIST B	E	I	A	D	B

QUESTION 2

QN	i	ii	iii	iv	v	vi	vii	viii	ix	x
Answer	C	B	D	C	B	A	D	C	B	C

SECTION B (70 Marks)

QUESTION 3 (Total 10 marks)

(a) Explain why first-generation computers were large, produced a lot of heat, and consumed a lot of power. (2 marks)

- They used vacuum tubes instead of transistors or microchips (1 mark).
- Vacuum tubes generated excessive heat, required large cooling systems, and consumed high electricity (1 mark).

(b) Why was the invention of the microprocessor a major breakthrough? (2 marks)

- It integrated the entire CPU onto a single silicon chip (1 mark),
- drastically reducing size, cost, and power consumption while increasing speed and reliability (1 mark).

(c) A mobile phone is often described as a small computer. Give three reasons. (3 marks)

Any three:

- Has a processor (CPU), memory (RAM/ROM), and storage.
- Runs an operating system (iOS, Android).
- Can run applications (apps) for different tasks.

- iv. Can connect to the internet and networks.
- v. Has input (touchscreen, mic) and output (screen, speaker) devices.

(d) Two reasons laptops are more preferred than desktops. (2 marks)

- i. Portability – easy to carry and use anywhere.
 - ii. Space-saving – no separate monitor, CPU tower, or many cables.
- (Also accept: built-in battery for use without mains power, integrated webcam/mic.)

(e) Two important tasks performed by the operating system. (1 mark each = 2 marks)

- i. Manages hardware resources (CPU, memory, storage).
 - ii. Provides a user interface (GUI or CLI) for interaction.
- (Also accept: file management, process scheduling, security/access control.)

QUESTION 4. (Total 10 marks)

(a) Five positive and respectful ways students can use the internet. (5 marks – 1 each)

- i) Researching educational content for assignments.
- ii) Participating in online classes and discussions respectfully.
- iii) Sharing useful learning resources with classmates.
- iv) Communicating politely with teachers via email or school platforms.
- v) Creating and sharing original projects (e.g., presentations, blogs).
- vi) Collaborating on group projects using online tools – Students can use Google Docs, Microsoft Teams, or Padlet to work together in real time, share ideas, and complete assignments without needing to meet physically.
- vii) Watching educational videos and tutorials – Platforms like YouTube, Khan Academy, and TED-Ed offer free lessons on nearly every subject, helping students understand difficult topics visually and at their own pace.
- viii) Practicing digital citizenship – Students can report harmful or inappropriate content, avoid spreading false information, and respect others' privacy and opinions while interacting online.

(Any other reasonable positive use accepted.)

(b) Importance of strong password + tips (5 marks)

Importance (2 marks):

i) Prevents unauthorized access to personal accounts and data.

ii) Protects against identity theft, hacking, and cyberbullying.

iii) Prevents financial loss – A weak password can allow hackers to access online banking, mobile money (e.g., M-Pesa), or shopping accounts, leading to stolen money or unauthorized transactions.

iv) Protects personal privacy – Strong passwords keep private emails, photos, messages, and personal documents safe from being viewed or shared without permission.

v) Maintains academic integrity – In school settings, a strong password prevents other students from impersonating you, changing your grades, accessing your assignments, or posting inappropriate content using your account.

Tips to create strong password (3 marks – any three):

Use at least 8–12 characters.

Mix uppercase, lowercase, numbers, and symbols.

Avoid common words, names, or birthdates.

Do not reuse passwords across different accounts.

Use a passphrase (e.g., Blue&Fish@2026).

QUESTION 5. (Total 10 marks)

(a) Five common data types with examples. (5 marks – 1 each)

Data Type	Example
Integer (int)	25, -7, 0
Float/Double	3.14, -0.5, 99.99
Character (char)	'A', 'z', '5'
String	"Hello", "Welcome"
Boolean (bool)	true / false, 1 / 0

(b) Simple C program to display "Welcome to Consolata". (5 marks)

```
#include <stdio.h>
```

```
int main() {  
    printf("Welcome to Consolata");  
    return 0;  
}
```

Mark breakdown:

Correct #include <stdio.h> (1 mark)

Correct main() function (1 mark)

Correct use of printf with the exact message (2 marks)

Correct syntax (semicolons, braces, return statement) (1 mark)

QUESTION 6. (Total 10 marks)

(a) Importance of protecting personal information online. (5 marks – 1 point each explained)

- i) **Prevents identity theft** – criminals could impersonate you.
- ii) **Avoids financial loss** – bank details exposed can lead to theft.
- iii) **Protects reputation** – private photos/info misused could embarrass you.
- iv) **Prevents cyberstalking or bullying** – location/contacts kept safe.
- v) **Maintains privacy rights** – you control who sees your data.
- vi) **Prevents account hacking** – Protecting personal information like usernames, security questions, and phone numbers stops attackers from taking over your email, social media, or school accounts.
- vii) **Avoids targeted scams (phishing)** – When criminals know your personal details (school, location, hobbies), they can create believable fake messages to trick you into giving more sensitive information or money.
- viii) **Protects family and friends** – If your account is compromised, criminals may impersonate you to scam or harass people in your contact list, spreading harm beyond yourself.

(b) Five advantages of using computers in institutions. (5 marks – 1 each)

- i) **Speed** – tasks processed quickly.
- ii) **Accuracy** – reduces human errors in calculations/data entry.
- iii) **Storage** – large amounts of data stored digitally.
- iv) **Communication** – email, instant messaging, video calls.
- v) **Automation** – repetitive tasks (e.g., payroll, attendance) automated.
- vi) **Cost-effectiveness in the long run** – Although initial purchase costs may be high, computers reduce the need for paper, physical storage space, and large administrative staff, saving money over time.
- vii) **Easy retrieval and searching** – Computers allow users to quickly search for specific records (e.g., a student's file or a bank transaction) within seconds, unlike manual paper filing systems.
- viii) **Remote access and flexibility** – Authorized users can access institutional data from home or other locations via the internet, enabling work-from-home, online learning, and telecommuting.

QUESTION 7. (Total 10 marks – 2 marks per field)

Field	Application of Computer Science
i. Banking	ATM operations, online banking, electronic fund transfers, fraud detection systems.
ii. Agriculture	Crop monitoring using sensors/drones, weather prediction, soil analysis software, precision farming.
iii. Healthcare	Electronic health records, medical imaging (MRI/CT), telemedicine, surgery robots.
iv. Defence	Missile guidance systems, surveillance drones, cybersecurity for military networks, simulation training.
v. Transportation	Traffic light control systems, GPS navigation, airline reservation systems, self-driving vehicles.

(2 marks each: 1 mark for relevant field identification + 1 mark for clear explanation)

QUESTION 8. (Total 10 marks – 2 marks each concept)

- (a) **Internet of Things (IoT)** – Network of physical devices (e.g., smart fridges, watches, lights) connected to the internet to collect and exchange data without human intervention.
- (b) **Video Conferencing** – Real-time audio and video communication between two or more people in different locations using internet-connected devices.
- (c) **Cybersecurity** – Practice of protecting computer systems, networks, and data from digital attacks, theft, or damage.
- (d) **Online Forum** – An internet-based discussion site where users can post messages, ask questions, and reply to others, often organized by topics.
- (e) **Website** – A collection of related web pages stored on a web server and accessible via the internet using a URL (e.g., www.school.ac.tz).

(2 marks each: 1 mark for correct definition, 1 mark for key characteristic or example)

QUESTION 9. (Total 10 marks)**(a) Meaning of e-learning (2 marks)**

E-learning is the use of electronic technologies (computers, smartphones, internet) to access educational curriculum outside of a traditional classroom, often involving online lessons, videos, and assessments.

(b) Five advantages of e-learning in education. (8 marks – 5x2 marks each)

Award 2 marks per advantage: 1 mark for naming, 1 mark for explaining.

Flexibility – learn anytime, anywhere at own pace.

Access to resources – videos, e-books, simulations available 24/7.

Cost-effective – reduces travel and physical material costs.

Personalized learning – students can revisit difficult topics.

Global collaboration – students can connect with peers/teachers worldwide.

Self-discipline & digital skills – develops important life skills.

SECTION C (15 Marks)

QUESTION 10

Six ways the Internet has improved access to education and supported online learning. (15 marks – 2 marks per point + 1 mark for clarity/organization)

Model answer (six points):

i) Access to global learning resources – Students can use free websites, digital libraries, Wikipedia, Khan Academy, and research papers from anywhere.

ii) Online courses – Platforms like Coursera, edX, and Udemy provide courses from top universities, allowing learners to study subjects not offered locally.

iii) Virtual classrooms and live lessons – Tools like Zoom, Google Classroom, and Microsoft Teams enable real-time teaching, interaction, and recorded sessions for later review.

iv) Collaboration and peer learning – Students can work on group projects via Google Docs, share notes, discuss in forums, and get help from others worldwide.

v) Flexible learning (asynchronous) – Learners can study at their own pace, access pre-recorded lessons, and submit assignments without being physically present.

vi) Low-cost or free educational resources – The Internet offers free textbooks, open educational resources (OER), lecture notes, and past exam papers, reducing the financial burden of buying expensive printed materials.

vii) Access to expert teachers and tutors – Students can learn from specialist teachers, professors, and industry experts worldwide through webinars, YouTube channels, and online tutoring platforms, even if such experts are not available locally.

viii) Instant feedback and assessment – Online quizzes, automated grading systems, and interactive exercises provide immediate feedback to students, helping them identify mistakes and improve without waiting for a teacher to mark papers.

Inclusive education for remote areas – Students in rural or underserved regions can access quality education via internet-enabled devices, reducing the need to travel long distances.

