

**THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATION COUNCIL  
GRADE A TEACHERS' CERTIFICATE EXAMINATION**

**635**

**INFORMATION AND COMMUNICATION TECHNOLOGY**

**Time: 3 Hours.**

**ANSWER**

**Year: 2004**

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**Instructions**

1. This paper consists of sections **A**, **B** and **C**.
2. Answer **all** questions in sections A and **two (2)** questions from each sections B and C.
3. Mobile phones and unauthorized materials are **not allowed** in the examination room.
4. Write your **Examination Number** on every page of your answer **booklet(s)**.

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## SECTION A (40 Marks)

Answer all questions from this section.

1. Mention four examples of application software.

Microsoft Word is an application software used for word processing. It allows users to type, edit, and format documents, making it essential for schools, businesses, and offices.

Microsoft Excel is another example. It is used for creating spreadsheets, performing calculations, and analyzing data, making it useful in accounting, finance, and research.

Adobe Photoshop is an application software for photo and graphics editing. It is widely used in the media and design industry to create professional images and designs.

Web browsers such as Google Chrome are also application software. They are used to access, retrieve, and interact with information on the internet.

2. List four features of cloud computing.

Cloud computing offers scalability. This means users can increase or decrease storage and computing power depending on their needs.

It provides accessibility. Data stored in the cloud can be accessed from anywhere using devices with internet connection, making it convenient for remote work.

It is cost-effective. Users avoid the cost of purchasing expensive hardware and software because services are rented from providers.

Cloud computing also supports automatic updates. The service providers ensure that systems are regularly updated with the latest features and security patches.

3. State four differences between data and information.

Data refers to raw facts and figures that have not yet been processed, while information is processed data that has meaning and is useful for decision-making.

Data may be incomplete or unorganized, for example numbers or words without context, while information is organized and structured to convey a message.

Data alone cannot always be used for decision-making, while information is used directly to guide decisions and actions.

Data can exist in any form such as symbols, text, or numbers, while information always presents a clear understanding or knowledge derived from data.

4. Give four uses of ICT in the health sector.

ICT is used for storing patient records. Electronic medical records make it easy for doctors to track patients' history and provide better treatment.

ICT enables telemedicine. Patients can consult doctors remotely using video calls and online platforms, especially useful in rural areas.

ICT is applied in hospital management systems. It helps manage appointments, billing, and drug inventory more effectively.

ICT supports medical research. Advanced computer systems and databases allow researchers to analyze health data and develop new treatments.

5. Mention four challenges of implementing ICT in schools.

One challenge is lack of infrastructure. Many schools do not have reliable electricity or internet connectivity to support ICT use.

Another challenge is the high cost. Buying computers, projectors, and software can be too expensive for schools in developing countries.

There is also a shortage of skilled teachers. Many teachers are not well trained in ICT and cannot integrate it into teaching effectively.

Cybersecurity risks also affect schools. Students may access harmful content or face data breaches if ICT is not managed properly.

6. State four examples of ICT storage media.

Flash drives are portable devices that store digital data and can be used to transfer information between computers.

External hard drives provide larger storage capacity and are often used for backups and storing large files.

Compact Discs (CDs) are optical storage media used to store music, videos, or documents.

Cloud storage is another example, where data is stored on remote servers and accessed via the internet.

7. List four reasons for conducting computer backups.

Backups protect against data loss caused by hardware failure. If a computer crashes, data can still be recovered.

They also protect against cyberattacks. In case of ransomware, having backups ensures access to original files.

Backups allow recovery from accidental deletion. Users can restore lost files when mistakes happen.

They also ensure business continuity. Organizations can continue operations without interruption after technical failures.

8. Mention four benefits of ICT in communication.

ICT makes communication faster. Emails, instant messaging, and video calls allow instant interaction across distances.

ICT reduces communication costs. Instead of traveling, people can use digital tools to exchange information cheaply.

ICT improves global connectivity. People from different countries can share ideas, do business, and collaborate easily.

ICT allows record keeping in communication. Messages and documents can be stored digitally for reference and accountability.

9. State four differences between hardware and software.

Hardware refers to the physical parts of a computer, while software refers to the set of instructions that run on the hardware.

Hardware can be touched and seen, like monitors and keyboards, while software is intangible and exists as programs.

Hardware is prone to physical damage, while software is prone to corruption, bugs, or viruses.

Hardware cannot function without software, while software requires hardware to operate.

10. Give four reasons why students should learn ICT skills.

ICT skills prepare students for employment. Most jobs today require basic computer literacy and digital skills.

ICT helps students access educational resources. With ICT, learners can use e-books, online courses, and digital libraries.

ICT promotes creativity and innovation. Students can use design, coding, and multimedia tools to create new ideas and projects.

ICT improves communication and collaboration. Students can work together on assignments using online platforms.

#### SECTION B (30 Marks)

Answer any two questions from this section.

11. Discuss five benefits of ICT in improving government services.

ICT improves transparency. E-government platforms allow citizens to access government information and reduce corruption by making processes more open.

It increases efficiency. Services such as tax filing, license renewal, and voting can be done online, reducing paperwork and saving time.

ICT improves citizen participation. Online platforms allow citizens to give feedback, ask questions, and engage with government officials easily.

It enhances service delivery. Digital systems ensure faster responses in areas like healthcare, social security, and public inquiries.

ICT reduces costs for the government. Automation and digitization lower expenses related to printing, storage, and manual labor.

12. Explain five disadvantages of relying heavily on ICT in education.

Heavy reliance on ICT may widen the digital divide. Students from poor backgrounds may not afford access to digital devices and internet.

It can reduce human interaction. Overuse of ICT may make students overly dependent on machines, affecting teacher-student relationships.

ICT is prone to technical problems. Power cuts, system crashes, or poor internet can disrupt lessons and examinations.

There is a risk of exposure to harmful content. Without proper control, students may access inappropriate websites or social media distractions.

Overreliance on ICT may discourage critical thinking. Students may depend on quick online answers instead of reasoning deeply.

13. Describe five reasons why ICT security is important in schools.

ICT security protects student data. Schools handle sensitive information like student grades and personal details, which must remain safe.

It prevents unauthorized access. Strong security stops hackers or outsiders from tampering with school systems.

ICT security ensures safe use of the internet. Students are protected from cyberbullying and online predators through monitoring and restrictions.

It maintains integrity of examination systems. ICT security prevents cheating or leaking of examination papers.

ICT security safeguards school resources. Protecting devices and networks ensures that costly equipment is not damaged or misused.

14. Analyse five challenges faced when using social media for educational purposes.

One challenge is misinformation. Students may come across false or misleading information that affects their learning.

Social media is highly distracting. Students may waste time on entertainment instead of focusing on educational content.

It raises privacy concerns. Personal details shared on social platforms may be misused by others.

There is uneven access. Some students have access to social media while others lack internet or devices, creating inequality.

The quality of content is not guaranteed. Not all educational materials on social media are accurate or reliable.

### SECTION C (30 Marks)

Answer any two questions from this section.

15. Critically evaluate five ways ICT has transformed traditional teaching methods.

ICT has introduced e-learning platforms. Teachers no longer rely only on chalkboards but can use multimedia and online tools to deliver lessons.

It supports interactive teaching. Digital tools like projectors, simulations, and educational software engage students better than traditional lectures.

ICT provides access to vast resources. Unlike limited textbooks, teachers and students can use online libraries, videos, and research articles.

It supports personalized learning. Students can learn at their own pace using digital tutorials and recorded lessons.

ICT enables distance learning. Even students in remote areas can access lessons through the internet, something traditional teaching could not achieve.

16. With practical examples, analyse five problems caused by digital divides in society.

The digital divide creates inequality in education. For example, rural students without internet cannot compete fairly with urban students who have access to e-learning.

It limits job opportunities. People without ICT skills cannot apply for jobs that require digital literacy, reducing employment chances.

It reduces access to government services. Citizens without internet cannot benefit from e-government platforms like online tax filing or license applications.

It increases social inequality. Wealthier people with access to ICT progress faster, while the poor remain left behind.

It weakens communication. Those without ICT tools cannot easily connect with family and friends compared to those who use smartphones and social media.

17. Assess five contributions of ICT to industrial development.

ICT enhances production efficiency. Automated machines and computer-controlled systems speed up manufacturing processes.

It improves quality control. ICT systems monitor production to ensure products meet high standards.

ICT supports innovation. Industries use ICT for research and development to create new products and designs.

It facilitates global trade. Industries use ICT for marketing, online transactions, and supply chain management.

ICT reduces operational costs. Automation and digital systems cut down the expenses of manual labor and paperwork.

18. Justify five reasons why information is considered power in modern society.

Information guides decision-making. Leaders, businesses, and individuals depend on timely and accurate information to make informed choices.

It creates awareness. Societies with access to information are more enlightened and can demand accountability from leaders.

Information gives a competitive edge. Businesses with more market information can outcompete rivals by making better strategies.

It promotes innovation. Knowledge sharing leads to creativity and new inventions that drive development.

Information empowers citizens. When people know their rights and opportunities, they can actively participate in politics, education, and economic growth.