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

635   **INFORMATION AND COMMUNICATION TECHNOLOGY**

Time: 3 Hours.   **ANSWER**   **Year: 2007**

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).**

SECTION A (40 Marks)

Answer all questions from this section

1. Mention four examples of web browsers.

   Google Chrome is a popular web browser that is widely used for its speed, simplicity, and compatibility with many websites.

   Mozilla Firefox is another web browser that is known for its security features, privacy options, and customizable extensions.

   Microsoft Edge is a browser developed by Microsoft that comes pre-installed in Windows and integrates well with other Microsoft services.

   Safari is a browser developed by Apple, mainly used on Mac and iOS devices, and it is optimized for performance and energy efficiency.

2. List four advantages of e-commerce.

   E-commerce provides convenience because customers can shop at any time and from anywhere without physically visiting stores.

   It offers a wider market reach, allowing businesses to sell products and services to customers globally instead of being limited to a local area.

   It reduces operational costs for businesses, as they do not need to invest heavily in physical shops or staff.

   It provides customers with the ability to compare prices and products easily, helping them to make better purchasing decisions.

3. Give four disadvantages of storing data manually.

   Manual data storage is time-consuming, as recording and retrieving information from paper files takes longer compared to computerized systems.

   It is prone to errors since human entry, filing, and retrieval can easily lead to mistakes or misplaced records.

   It takes up a lot of physical storage space because cabinets and shelves are required to keep files.

   It is less secure since paper records can be easily stolen, damaged, or destroyed by fire, floods, or pests.

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4. Mention four characteristics of good information.

Good information must be accurate, meaning it is correct and free from errors.

It must be relevant, meaning it should be applicable and useful to the specific purpose for which it is required.

It must be timely, meaning it should be available when needed to support effective decision-making.

It must be complete, meaning it should provide all necessary details without leaving out important parts.

5. State four examples of ICT application in the banking industry.

Banks use Automated Teller Machines (ATMs) to allow customers to withdraw cash and check balances at any time.

They use online banking platforms to enable customers to transfer money, pay bills, and manage accounts through the internet.

Banks use mobile banking applications to provide financial services directly through smartphones.

They also use electronic funds transfer systems such as SWIFT to handle secure international transactions.

6. List four roles of ICT in environmental conservation.

ICT is used in environmental monitoring through sensors and satellites that collect data on air, water, and soil quality.

It supports awareness campaigns through social media and websites to educate people about environmental protection.

ICT is used in Geographic Information Systems (GIS) to map forests, wildlife habitats, and areas affected by deforestation or pollution.

It helps reduce paper use by promoting digital communication, e-documents, and online platforms, which save trees.

7. Outline four limitations of video conferencing.

Video conferencing depends on a stable internet connection, and poor connectivity can disrupt communication.

It lacks personal interaction, which reduces the effectiveness of discussions compared to face-to-face meetings.

The setup cost for equipment, cameras, and software may be high for some organizations.

Technical problems such as audio delays, software incompatibility, and system crashes can interrupt meetings.

8. Give four reasons for using passwords in computer systems.

Passwords help protect sensitive information from unauthorized access.

They help maintain privacy by ensuring that only authorized users access personal or organizational accounts.

They support accountability because each user can be identified by their login credentials.

They help prevent cybercrimes such as hacking, identity theft, and misuse of information.

9. Mention four examples of wireless communication technologies.

Wi-Fi is a wireless communication technology used for connecting devices to the internet within a limited area.

Bluetooth is used for short-range communication between devices such as phones, speakers, and headsets.

Satellite communication is used for broadcasting signals and supporting global positioning systems (GPS).

Mobile networks such as 3G, 4G, and 5G enable wireless voice and data communication over large areas.

10. State four challenges of digital migration in broadcasting.

Digital migration requires high costs for infrastructure development, which many broadcasters struggle to afford.

Viewers need to purchase new devices such as digital TVs or decoders, which may be expensive for low-income households.

There is resistance to change as some people prefer analog systems they are familiar with.

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Limited awareness and lack of training for both broadcasters and consumers slow down the transition process.

SECTION B (30 Marks)

Answer any two questions from this section

11. Explain five benefits of ICT in rural development.

ICT improves access to information by providing farmers with weather forecasts, market prices, and modern farming techniques.

It enhances education in rural areas through e-learning platforms that connect learners with teachers and educational resources.

It improves healthcare by supporting telemedicine, which allows rural patients to consult doctors without traveling long distances.

ICT promotes entrepreneurship by enabling rural businesses to reach wider markets through online platforms.

It strengthens communication in rural areas, connecting communities with the rest of the world through mobile phones and the internet.

12. Discuss five challenges faced in implementing ICT curriculum in schools.

Many schools lack infrastructure such as computers, internet, and electricity, making it difficult to implement ICT effectively.

There is a shortage of qualified ICT teachers who can deliver lessons effectively and keep up with technological changes.

High costs of acquiring and maintaining ICT equipment limit schools, especially in rural areas, from adopting ICT fully.

Resistance from teachers and administrators who are more comfortable with traditional methods slows adoption.

Frequent updates in technology make it difficult for schools to keep the curriculum relevant and updated.

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13. Analyse five roles of ICT in controlling climate change.

ICT supports climate research by collecting and analyzing environmental data using satellites and sensors.

It enhances awareness campaigns through online platforms that educate people about climate change and encourage sustainable practices.

ICT promotes green practices by supporting digital communication that reduces paper use and travel-related carbon emissions.

It supports renewable energy systems through smart grids that monitor and manage energy consumption efficiently.

ICT helps governments and organizations track and report progress on climate change mitigation programs using data management systems.

14. Explain five dangers of unethical use of ICT in media.

Unethical use of ICT in media can spread misinformation and fake news, which misleads the public and causes panic or unrest.

It can lead to invasion of privacy when media outlets expose personal details without consent.

It can encourage cyberbullying and online harassment, which negatively affect individuals' mental health and dignity.

Unethical media practices can damage reputations through false reporting and defamation.

They can manipulate public opinion during elections or social debates, undermining democracy and fairness.

SECTION C (30 Marks)

Answer any two questions from this section

15. Critically evaluate five ways ICT promotes democracy and good governance.

ICT promotes transparency by providing platforms where governments publish budgets, tenders, and policies for public access.

It enhances citizen participation by allowing people to express opinions on social media and online forums.

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ICT reduces corruption through electronic systems that monitor government transactions and reduce human interference.

It enables quick dissemination of information, ensuring citizens are informed about policies, laws, and developments.

ICT provides platforms for electronic voting, making elections faster and more secure, though still facing challenges.

16. With examples, assess five impacts of ICT on traditional businesses.

ICT has transformed marketing from traditional methods like posters to digital marketing through social media and websites.

It has introduced e-commerce, replacing physical shops with online stores such as Jumia and Amazon.

It has automated processes like accounting and inventory management, which reduces manual work.

ICT has expanded market reach, allowing local businesses to sell globally instead of being limited to nearby customers.

It has increased competition as small businesses now compete with large corporations online.

17. Analyse five reasons why ICT is considered a backbone of knowledge economy.

ICT enables storage and retrieval of vast amounts of information in databases, making knowledge easily accessible.

It supports global collaboration in research and education, allowing knowledge sharing across borders.

ICT provides platforms like online journals, e-books, and educational websites that form key knowledge resources.

It enhances innovation by supporting simulations, modeling, and analysis that lead to new discoveries.

ICT improves communication through emails, video conferencing, and instant messaging, which speeds up knowledge exchange.

18. Justify five measures to address ethical concerns in ICT development.

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One measure is creating laws and regulations that guide responsible use of ICT and punish unethical practices.

Another is promoting digital literacy to help users understand online ethics and responsible technology use.

Developers should adopt ethical standards in designing systems that respect privacy and protect users.

Organizations should enforce cybersecurity policies that safeguard data and prevent misuse.

There should be international cooperation to ensure that ICT development follows global ethical standards.

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