

**THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA  
DIPLOMA IN SECONDARY EDUCATION EXAMINATION**

738

**INFORMATION AND COMMUNICATION TECHNOLOGY**

**Time: 3 Hours**

**ANSWERS**

**Year: 2021**

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**Instructions.**

1. This paper consists of sections A and B with a total of **Fourteen (14)** questions.
2. Answer **all** questions from section A and **four (4)** questions from section B.
3. Section A carries **forty (40)** marks and section B Carries **sixty (60)** marks.
4. Cellular phones are **not** allowed in the examination room.
5. 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. Each question carries 4 marks.

### **1. Describe briefly two advantages of using Information and Communication Technology in each of the following areas: (a) Business (b) Government.**

In business, Information and Communication Technology (ICT) improves efficiency in operations. It enables faster processing of transactions, record keeping, inventory management, and communication between different departments, saving time and reducing errors.

ICT in business also expands market reach. Through online platforms, businesses can advertise, sell, and communicate with customers globally, increasing market opportunities beyond local physical limits.

In government, ICT enhances service delivery. It enables public offices to provide faster and more reliable services to citizens, such as online tax payment, licensing, and document registration, reducing queues and delays.

ICT also promotes transparency and accountability in government operations. Through digital records and online platforms, citizens can track government projects, expenditures, and services, reducing opportunities for corruption and inefficiency.

### **2. Describe briefly the importance of some elements of multimedia i.e. text, video, graphics and sound in the teaching and learning process.**

Text is important in teaching and learning because it presents information in a written form that learners can read, review, and refer to later, promoting independent study and deeper understanding.

Video provides visual demonstrations and real-life examples of concepts, making abstract ideas easier to understand. It increases engagement and can capture learners' attention effectively.

Graphics, such as charts, diagrams, and images, help simplify complex information, making it easier for learners to comprehend relationships, processes, and comparisons visually.

Sound enhances learning by providing verbal explanations, instructions, and background effects, which support auditory learners and make lessons more lively and memorable.

### **3. Differentiate the terms as used in Information and Communication Technology; (a) Hypertext Transfer Protocol and File Transfer Protocol (b) Network News Transfer Protocol and Transmission Control Protocol.**

Hypertext Transfer Protocol (HTTP) is a protocol used to transfer web pages and related files over the internet, enabling users to access websites through their browsers.

File Transfer Protocol (FTP) is a protocol specifically designed for transferring files from one computer to another over a network, allowing uploading and downloading of data files.

Network News Transfer Protocol (NNTP) is a protocol used for distributing, querying, and retrieving messages from newsgroups on the internet, enabling the sharing of public messages in online forums.

Transmission Control Protocol (TCP) is a communication protocol responsible for breaking down messages into small packets, ensuring their safe delivery, and reassembling them at the destination computer over a network.

#### **4. Show how good slides can be prepared in the PowerPoint presentation by giving four points.**

Good slides should use clear and legible fonts, ensuring that the text is readable even from a distance and avoiding overly decorative or small-sized fonts.

Slides should avoid overcrowding with information. Key points should be summarized using bullet points or brief phrases rather than long paragraphs.

The use of appropriate images, charts, and graphics helps make the presentation engaging and visually appealing while supporting the message being delivered.

Consistent and simple slide design, including color schemes, background, and font style, maintains a professional look and ensures the audience focuses on the content.

#### **5. Write the functions of the following shortcut keys as used in computer application software such as Microsoft Word: (a) CTRL+P (b) CTRL+A (c) CTRL+C (d) CTRL+V.**

CTRL+P is used to open the print dialog box, allowing the user to print the currently opened document or page.

CTRL+A selects all the content in the active window or document, making it easier to apply formatting, delete, or copy everything at once.

CTRL+C copies the selected text, image, or object to the clipboard, enabling the user to paste it elsewhere without removing it from the original location.

CTRL+V pastes the content that was copied or cut from the clipboard to the desired location in the document.

#### **6. How are the following network devices differ in transportation of data from the source to the destination computers? (a) Hub and Switch (b) Bridge and Router.**

A hub is a basic network device that sends data to all computers connected to its ports, regardless of the intended recipient, often causing network congestion.

A switch is a smarter device that reads the destination address of data packets and forwards them only to the specific computer intended to receive the data, improving network efficiency.

A bridge connects and filters traffic between two network segments, making them function as a single network and reducing unnecessary traffic between the segments.

A router connects multiple networks together and directs data packets along the most efficient route to their destination, often providing internet access by linking a local network to external networks.

**7. Explain why people prefer using modern media for information dissemination rather than the traditional media by giving two points.**

Modern media provides instant communication. Information can be shared and received in real time through social media, emails, and online news platforms, unlike traditional media like newspapers and radio, which often have delays.

Modern media allows interactive engagement. Users can comment, ask questions, and share feedback instantly on digital platforms, while traditional media usually offers one-way communication with limited audience participation.

**8. Elaborate the differences between teacher's manual and teacher's guide.**

A teacher's manual is a comprehensive document that provides detailed instructions, lesson plans, assessment methods, and background information to support teachers in delivering a complete course or subject.

A teacher's guide, however, is a simpler document that offers brief suggestions, tips, and frameworks for presenting specific topics or lessons, often accompanying textbooks or media resources without going into deep instructional detail.

**9. Analyse four disadvantages of using mobile phones rather than desktop computer in accessing the internet.**

Mobile phones have small screens, making it difficult to view large documents, complex websites, or detailed graphics compared to the larger display of a desktop computer.

They have limited storage capacity, restricting the amount of data, files, or applications that can be downloaded and saved for offline use.

The processing power of mobile phones is generally lower than desktop computers, causing slower loading times for heavy web applications or large files.

Mobile phones often have shorter battery life when used for continuous internet browsing, while desktop computers are powered directly by electricity and can be used for extended periods without interruption.

**10. Describe four basic requirements for printing a text document which is already prepared in a computer.**

The computer must have a printer installed and properly connected, either through a USB cable, Bluetooth, or a network connection, depending on the type of printer used.

The necessary printer drivers and software must be installed on the computer to allow communication between the computer and the printer.

There should be enough paper loaded in the printer's tray, appropriately sized to match the document settings to ensure proper printing.

The printer must have sufficient ink or toner levels to produce clear, readable prints without fading or missing sections of text.

## **SECTION B (60 Marks)**

Answer all questions from this section. Each question carries 15 marks.

### **11. Analyse five functions of the operating system in a desktop computer.**

The operating system manages hardware resources in a computer by controlling how the CPU, memory, and input-output devices work together to execute tasks and run applications efficiently.

It provides a user interface that allows users to interact with the computer system through graphical icons, menus, and command lines, making it easier to operate and control the machine.

The operating system handles file management by organizing, storing, retrieving, and securing data files on storage devices, ensuring that users can access and manage their information smoothly.

It manages system security by regulating user access, preventing unauthorized use, and protecting data from malware, viruses, and other security threats.

The operating system coordinates task management by allocating resources to multiple programs running simultaneously, ensuring smooth multitasking without system conflicts or breakdowns.

### **12. Justify the view that multimedia is a useful tool in different sectors of the societies by explaining the application of multimedia in any five sectors.**

In education, multimedia enhances teaching and learning by combining text, images, video, and audio to simplify difficult concepts and engage students through interactive content like simulations and virtual lessons.

In healthcare, multimedia is used in patient education, where videos and animations explain medical procedures, treatment plans, and healthy lifestyle practices, improving patient understanding and compliance.

In business, multimedia supports advertising and marketing through promotional videos, graphic designs, interactive websites, and online campaigns, helping companies reach wider audiences effectively.

In entertainment, multimedia powers video games, films, music, and digital arts, offering audiences immersive and interactive experiences through various digital content platforms.

In public awareness campaigns, multimedia is used to communicate social messages, health alerts, and civic information through posters, short films, and audio-visual public service announcements to influence positive community behavior.

### **13. Describe five factors to consider when selecting a programming language.**

The nature of the project is a key factor since different programming languages are suitable for different tasks, such as C++ for system software and Python for web and data applications.

The ease of learning and use should be considered, especially for beginners or teams with varied skills, as languages with simple syntax like Python can speed up development and reduce errors.

Availability of resources such as compilers, libraries, frameworks, and online support communities can influence the choice because they make coding, debugging, and deployment faster and easier.

Platform compatibility matters since some programming languages are designed for specific platforms, and selecting one that works across operating systems can save time and cost.

Performance and efficiency are essential, especially for projects requiring high-speed execution and resource management, as some languages like C and Java offer better system performance than others.

### **14. Elaborate five criteria to consider when choosing the best textbooks.**

The textbook's content accuracy and relevance to the curriculum is crucial, as it ensures the information presented is correct, up-to-date, and aligned with the learning objectives of the subject.

The language and readability level should be appropriate for the learners' age, background, and comprehension abilities to facilitate easier understanding and engagement with the material.

The presence of adequate illustrations, diagrams, and examples enhances understanding, particularly for complex topics, by breaking down information visually and practically.

The textbook's durability and print quality are important because a well-bound, legible, and durable book will withstand repeated use without falling apart or fading over time.

The textbook should include exercises, revision questions, and practical activities at the end of each chapter to help learners assess their understanding and reinforce their knowledge.