

845/1  
INFORMATION AND  
COMMUNICATION  
TECHNOLOGY  
Paper 1  
2 <sup>1</sup>/<sub>2</sub> HOURS

## YAAKA EXAMINATIONS

Uganda Certificate Of Education  
INFORMATION AND COMMUNICATION  
TECHNOLOGY

Paper 1  
TIME: 2 hours 30 minutes

### INSTRUCTIONS TO CANDIDATES

- *This paper consists of two sections; A and B.*
- *It has **five** examination items. Section A has one compulsory item.*
- *Section B has two parts; I and II. Answer one item from each part.*
- *Answer three examination items in all.*  
*Any additional item(s) answered will not be scored.*
- *All answers must be written in the answer booklet(s) provided*

**SECTION A**  
**Answer all items in this section.**

**Item 1**

Learners from St. Mark's High School were invited to participate in a hackathon focusing on developing mobile applications that solve community challenges. The students were expected to use tools like MIT App Inventor and Python. However, due to insufficient preparation and lack of understanding of the platforms, their project failed to impress the judges.

**Tasks:**

- (a). As an ICT mentor, prepare a guide to help the students improve their skills in app development using beginner-friendly platforms.
- (b). Provide insights on the key steps in the app development process and how to effectively present a project at a hackathon.
- (c). Suggest ways the school can better prepare its students for future ICT competitions.

**SECTION B**  
**PART I - Answer one item from this part.**

**Item 2**

A rural health center has decided to introduce an electronic health records (EHR) system to replace the manual paper-based system. However, the health workers, most of whom are not tech-savvy, are resistant to the change.

**Tasks:**

- (a). Design a training plan that will guide the health workers on using the EHR system effectively.
- (b). Discuss the benefits of EHR systems in improving patient care and the challenges associated with their adoption in rural settings.
- (c). Recommend security measures to protect patient data in the EHR system.

**Item 3**

Green Light Academy has recently installed a smart classroom setup, complete with interactive whiteboards, projectors, and internet-enabled devices for students. However, teachers are finding it challenging to integrate these technologies into their teaching.

**Tasks:**

- (a). Create a step-by-step guide for teachers on how to effectively use the interactive whiteboards and projectors during lessons.
- (b). Discuss the potential impact of smart classroom technology on student engagement and learning outcomes.
- (c). Highlight potential technical issues that may arise and provide solutions for each.

**PART II - Answer one item from this part.****Item 4**

Jamilah, a student at Lugazi High School, has been tasked with researching cyberbullying for her ICT project. She is struggling to gather accurate data and present her findings in a professional manner.

**Tasks:**

- (a). Outline the steps Jamilah should follow to conduct effective online research on sensitive topics like cyberbullying.
- (b). Provide guidance on how she can use ICT tools like data visualization software to present her research findings clearly.
- (c). Explain the ethical considerations she should keep in mind when researching and presenting data on sensitive issues.

**Item 5**

The government has launched a digital inclusion project aimed at equipping local communities with basic ICT skills. Part of the project involves setting up public internet kiosks in underprivileged areas. However, concerns have been raised about the misuse of these kiosks and the maintenance of the equipment.

**Tasks:**

- (a). Propose a management plan to ensure the kiosks are used appropriately and maintained effectively.
- (b). Identify key ICT skills that community members should be taught to maximize the benefits of the internet kiosks.
- (c). Discuss strategies to ensure the security of the kiosks and the personal data of users.

END

## MARKING GUIDE TO THE ABOVE TASKS

### SECTION A

#### Item 1:

##### 1. Guide to Improving App Development Skills:

- **Explanation:** Start with user-friendly platforms that provide a visual approach to coding, making the learning process easier for beginners.
- **Examples:** Use MIT App Inventor, which offers drag-and-drop coding features that simplify app creation. Encourage practice with tutorials on YouTube to build familiarity.

##### 2. Key Steps in App Development:

- **Explanation:** Following structured steps ensures a smooth development process and a polished final product.
- **Examples:**
  - **Step 1:** Define the problem – Clearly identify the issue your app aims to solve.
  - **Step 2:** Design the User Interface (UI) – Sketch layouts to visualize the app.
  - **Step 3:** Develop the code – Use a coding platform suited to your skill level.
  - **Step 4:** Test the app – Regular testing helps find and fix bugs before final presentation.

##### 3. Preparing Students for Future ICT Competitions:

- **Explanation:** Preparation and practice are key to performing well in competitive scenarios.
- **Examples:** Conduct mock competitions within the school to simulate the hackathon environment, provide mentorship from experienced developers, and encourage collaborative team efforts.

### SECTION B

#### Item 2:

##### 1. Training Plan for EHR System:

- **Explanation:** A comprehensive training plan helps health workers understand and adopt EHR systems.
- **Examples:**
  - **Session 1:** Introduction to EHR – Basic navigation, logging in, and data entry.
  - **Session 2:** Record Management – How to update, retrieve, and secure patient records.
  - **Session 3:** Hands-On Practice – Using dummy data to practice real-world scenarios.

##### 2. Benefits and Challenges of EHR Systems:

- **Explanation:** Understanding the pros and cons helps address concerns and streamline implementation.
- **Examples:**
  - **Benefits:** Reduced paperwork, quicker access to patient data, and improved patient management.
  - **Challenges:** Resistance due to lack of technical skills, high initial setup costs, and potential technical failures.

### 3. Security Measures for EHR Systems:

- **Explanation:** Protecting patient data is crucial for maintaining trust and compliance with regulations.
- **Examples:** Use multi-factor authentication, encrypt data, and conduct regular security audits to prevent unauthorized access.

#### Item 3:

##### 1. Guide for Smart Classroom Technology:

- **Explanation:** A step-by-step guide helps teachers integrate technology effectively into lessons.
- **Examples:**
  - **Step 1:** Connecting Devices – Plug in projectors and ensure the interactive whiteboard is connected to the computer.
  - **Step 2:** Using Interactive Features – Utilize touch capabilities to highlight text and drag objects on the screen during lessons.

##### 2. Impact on Student Engagement:

- **Explanation:** Smart technology enhances interactive learning, making education more engaging and accessible.
- **Examples:** Students can interact directly with lesson content, participate in digital quizzes, and engage with multimedia resources.

##### 3. Potential Technical Issues and Solutions:

- **Explanation:** Identifying common issues helps prevent disruptions during class.
- **Examples:**
  - **Issue:** Connectivity failures.
  - **Solution:** Have offline materials ready and troubleshoot connectivity issues with a set protocol.

## PART II

#### Item 4:

##### 1. Steps for Conducting Research on Cyberbullying:

- **Explanation:** Systematic research helps gather accurate data on sensitive topics like cyberbullying.
- **Examples:**
  - **Step 1:** Define the Scope – Decide on specific aspects of cyberbullying to focus on, such as effects on teenagers.
  - **Step 2:** Use Reliable Sources – Websites like UNICEF or academic journals offer credible information.

##### 2. Using ICT Tools for Presentation:

- **Explanation:** Visual tools help in presenting data in a way that is easy to understand.
- **Examples:** Use Microsoft Excel to create graphs, PowerPoint for visual presentations, and Canva for infographics to summarize key points.

##### 3. Ethical Considerations in Research:

- **Explanation:** Ethical guidelines ensure respect for privacy and data integrity.
- **Examples:** Avoid using identifiable information, ensure consent is obtained for any data used, and present findings truthfully without manipulation.

## Item 5:

### 1. Management Plan for Internet Kiosks:

- **Explanation:** Effective management ensures that kiosks are maintained and used correctly.
- **Examples:** Appoint a community manager to monitor usage, keep the software updated, and perform regular checks on hardware.

### 2. Key ICT Skills for Community Members:

- **Explanation:** Teaching basic skills empowers users to maximize the benefits of ICT resources.
- **Examples:** Basic internet navigation, email setup, understanding online safety measures, and how to use essential software like Microsoft Word.

### 3. Strategies for Kiosk Security:

- **Explanation:** Security measures protect both the equipment and user data.
- **Examples:** Use antivirus software, set up firewalls, and restrict access to certain websites to prevent misuse.



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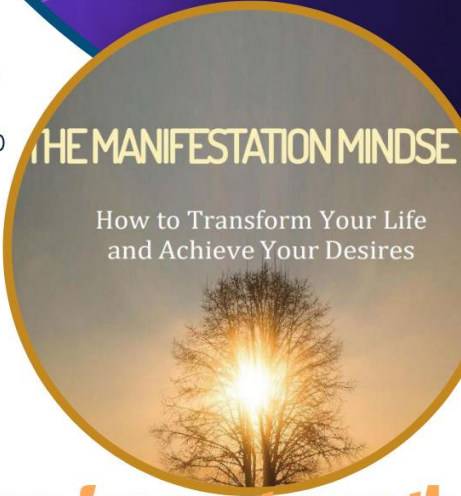
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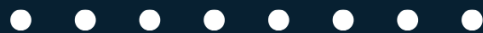
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