

840/1
INFORMATION AND
COMMUNICATIONS
TECHNOLOGY (ICT)

Paper 1
September 2024
2¹/₄ hours



KABS' ICT RESOURCES CENTER

Uganda Certificate of Education

INFORMATION AND COMMUNICATIONS TECHNOLOGY

Paper 1

Theory

2 hour 15 minutes

Final Guide

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Item 1: ICT Tools for a Bakery

In Uganda's fast-growing business environment, embracing ICT tools can significantly improve operations. Sarah, who runs a bakery, wishes to modernize her business by adopting various ICT tools that will enhance customer satisfaction and streamline her operations.

1. Selection of ICT Tools:

- **Point of Sale (POS) System:** A POS system will automate sales transactions, track inventory, and generate sales reports, allowing Sarah to monitor daily sales and stock levels in real time.
- **E-commerce Platform:** Sarah can implement an online platform where customers can place orders and make payments. For example, she can use tools like **WooCommerce**, which integrate with mobile money and allow digital payments.
- **Mobile Money Integration:** Integrating mobile money platforms like MTN Mobile Money or Airtel Money will allow customers to make convenient and secure payments.
- **Receipt Printer:** A receipt printer will provide digital or printed receipts for every purchase, improving customer experience.
- **Computer or Tablet:** This will be used to manage orders, track sales, and store customer information securely.

2. Maintenance of ICT Tools:

- **Regular Software Updates:** Ensure that software like POS systems or e-commerce platforms are updated regularly for better security and efficiency.
- **Antivirus Installation:** Install antivirus software to protect systems from malware that could compromise business data.
- **Physical Cleaning:** Keep hardware like the computer and receipt printer dust-free to avoid breakdowns.
- **Data Backup:** Regularly back up data using cloud services such as Google Drive or external hard drives to prevent data loss.

In Conclusion therefore, by implementing these ICT tools and maintaining them effectively, Sarah will boost her bakery's efficiency, customer satisfaction, and overall profitability.

Item 2: Preventing System Failures in a Hospital

Hospitals rely heavily on ICT systems for patient management, but repeated system failures can disrupt services. Addressing the causes of these failures and preventing future occurrences is essential to maintain smooth operations and patient care.

1. Causes of System Failures and Solutions

- **Power Surges:** Electrical instability can damage sensitive devices like servers. **Solution:** Install Uninterruptible Power Supplies (UPS) to protect equipment from surges and outages.
- **Lack of Maintenance:** Failure to update software and clean hardware leads to malfunctions. **Solution:** Schedule regular hardware cleaning and software updates.
- **Virus Infections from External Devices:** Unauthorized use of USBs introduced viruses. **Solution:** Install antivirus software and restrict external device access.
- **No Backup System:** The absence of data backups caused the loss of medical records. **Solution:** Implement automatic, regular backups stored on-site and in the cloud.

2. Protecting ICT Infrastructure

- **Cybersecurity:**
 - Install firewalls to block unauthorized traffic and isolate sensitive data.
 - Use data encryption to secure patient information during transmission and storage.
 - Implement strong passwords and multi-factor authentication for system access.
- **Physical Security:** Limit access to servers with keycards or biometric controls, and monitor them with security cameras.
- **Staff Training:** Educate staff on cyber threats like phishing and the safe use of ICT tools.
- **Regular Audits:** Conduct periodic security audits and penetration tests to identify vulnerabilities.

By addressing the causes of system failures and implementing proper e-waste management, hospitals can maintain a reliable ICT infrastructure and enhance patient care.

Item 3: Responsible ICT Use Among Students

Excessive use of ICT devices, especially smartphones, among students can lead to poor academic performance and health issues. Educating students on the consequences of prolonged screen time and responsible ICT use is essential for fostering a healthy learning environment.

1. Dangers of Using Public Wi-Fi

- **Personal Information Theft:** Hackers can easily intercept data on unsecured networks.
 - **Tip:** Avoid entering sensitive information like passwords on public Wi-Fi.
- **Tracking:** Cybercriminals or apps can track online activity and location.
 - **Tip:** Be mindful of what you access in public.
- **Malware Infections:** Hackers may use public Wi-Fi to spread malware.
 - **Tip:** Don't download files or click suspicious links.

2. Tips to Stay Safe Online

- **Use a VPN:** Encrypts internet traffic, protecting data from hackers.
- **Avoid Sensitive Transactions:** Don't perform banking or shopping on public Wi-Fi.
- **Turn Off Automatic Connections:** Prevent automatic connection to unsecured Wi-Fi.
- **Use Secure Websites (HTTPS):** Ensure sites use HTTPS to secure data.
- **Update Devices and Antivirus:** Keep software updated to protect against vulnerabilities.

3. Engaging the Students with Practical Demonstration: Show the students how to install a VPN or how to disable automatic Wi-Fi connections on their phones. This hands-on approach will help them immediately implement the safety measures.

By adopting these strategies, students will be able to use ICT responsibly, improving their health and academic performance.

Item 4: Simple Sales Report and Email Attachment

John has no prior experience with spreadsheet software or sending emails in a professional context, it's essential to offer him a step-by-step, practical guide, so that he maintains his new role. The approach below will focus on simplifying the process while ensuring John feels confident in handling these tasks independently.

1. Creating a Sales Report in Microsoft Excel

- **Step 1: Open Microsoft Excel**

- Launch **Microsoft Excel**.
- Click on **Blank Workbook** to open a new worksheet.

- **Step 2: Set Up the Columns**

- In the first row, input the column headers in **Row 1** as follows:
 - **A1:** Date, **B1:** Product, **C1:** Quantity Sold, **D1:** Price per Unit (UGX), **E1:** Total Sales (UGX)
- **Enter data under the column headings**

(Date)	(Product)	(Quantity Sold)	(Price per Unit)	(Total Sales)
01/10/2024	Tractor	2	45,000,000	90,000,000
02/10/2024	Plow	5	1,200,000	6,000,000
03/10/2024	Harvester	3	12,000,000	36,000,000

- **Step 3: Calculate Total Sales Using Formulas**

- Click in **E2** (under "Total Sales") and input the formula:
 - =C2*D2 (this multiplies **Quantity Sold** by **Price per Unit**).
- Press **Enter** to calculate the total.
- Drag the corner of **E2** down to apply the formula to the remaining rows.

- **Step 4: Add a Total Summary**

- Click on an empty cell (e.g., **E5**) and enter the formula to sum the total sales:
 - Type =SUM(E2:E4) and press **Enter**.

- **Step 5: Save the Sales Report**

- Click **File > Save As**.

- Navigate to the **Desktop** and create a new folder named "**October Reports**".
- Save the file as "**October Sales Report.xlsx**" in the "**October Reports**" folder on the desktop.

2. Sending the Report via Gmail

- **Step 1: Open Gmail**

- Go to www.gmail.com and log in with your email credentials.

- **Step 2: Compose a New Email**

- Click the **Compose** button in the top-left corner of Gmail to open a new email window.

- **Step 3: Attach the Sales Report**

- Click the paperclip icon (Attach files) at the bottom of the email window.
- Browse to the **Desktop > October Reports** folder, select "**October Sales Report.xlsx**", and click **Open** to attach it.

- **Step 4: Draft the Email**

- **To:** Enter the recipient's email address (e.g., headquarters@gmail.com).
- **Subject:** "October Sales Report - UGX"
- **Body of Email:**

Dear Manager,

Please find attached the sales report for October 2024. The total sales amounted to 132,000,000.

Let me know if any further information is required.

Best regards,

John

- **Step 5: Send the Email**

- After confirming the attachment and message, click **Send**.

By following these steps, John can create a sales report in **Microsoft Excel** with calculated totals, save the file in a dedicated folder on the **Desktop**, and send it via **Gmail**. This will streamline his workflow as the new sales manager.

Item 5: Online Grant Application for a SACCO

In Uganda, SACCOs often rely on government grants to boost their financial operations. The women's SACCO needs to complete and submit a grant application online, but the chairperson lacks the necessary ICT skills. Understanding the required steps is vital for the SACCO's success.

1. Steps for Completing the Application

- **Access the Portal:** Open a web browser (e.g., Chrome), log into the government grant portal (e.g., www.govgrants.ug), and download the application form.
- **Fill the Form:** Use a PDF editor (e.g., **Adobe Acrobat**). Fill in details like the cooperative's name, number of members, grant amount (e.g., 50,000,000 UGX), and project description.
- **Attach Supporting Documents:** Scan documents (e.g., financial records) using a scanner or mobile app (e.g., **CamScanner**) and save them.
- **Submit the Application:** Upload the completed form and documents on the portal, review all entries, and click **Submit**.
- **Save Confirmation:** Save the confirmation receipt either by downloading as PDF or taking a screenshot.

2. Securing Information

- **Use a Secure Connection:** Ensure the portal URL has **https** and avoid public Wi-Fi during submission.
- **Encrypt Sensitive Documents:** Use password protection in PDF tools like **Adobe Acrobat** for extra security.
- **Regular Updates and Antivirus Software:** Ensure the computer is updated with the latest software and run an antivirus scan (e.g., **Norton, Kaspersky**) before uploading any documents.
- **Backup Documents:** Save all files to an external drive or cloud storage (e.g., **Google Drive**) for safekeeping.

By mastering these steps, the SACCO will be able to submit their application on time and increase their chances of receiving funding.

END