840/1
INFORMATION AND COMMUNICATIONS TECHNOLOGY(ICT)
Paper 1
2024
2¼ hours

UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

INFORMATION AND COMMUNICATIONS TECHNOLOGY

Paper 1
Theory

2 hours 15 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 the item in this section.

Item 1.

Isaac is currently running a stationery shop where he sells scholastic materials and provides photocopying services only. On daily basis he gets clients inquiring about passport size photographs, business reports, statistical data and formal letters. He is concerned that he may lose some of his customers due to limited services. He contacted a company dealing in ICTs which sent him a brochure bearing some of the ICT tools shown below.

1

IMAGE **1**: Source- https://www.monitor.co.ug/uganda/magazines

2

IMAGE **2**: Source- images of digital devices - Search (bing.com)

Given limited knowledge on the ICT tools displayed on the brochure, Isaac failed to select which ICTs would be appropriate for his business

Task

(a) Guide Isaac to select the appropriate ICT tools that will help him improve his services and retain his customers.

(b) Advise Isaac on how best he can maintain the ICT tools in good working condition.

SECTION B

This section has **two** *Parts;* **I** *and* **II.**

PART I

Answer **one** *item from this part.*

Item 2.

A few days ago, thieves broke into the computer laboratory of a school and stole various equipment. The network server was amongst the stolen equipment and a lot of the school's important information was lost. As it all happened, some computer parts were broken and scattered all over the laboratory floor.

The following morning, the laboratory attendant collected the damaged parts in a box and dumped them at the garbage pit assuming that most of them would no longer function.

Box of damaged computer parts and dumped items

Source: www.boldbusiness.com

Task

(a) Advise the laboratory attendant and the school management on what could have caused such occurrences and the measures they should put in place to prevent similar incidences.

(b) Demonstrate how the school and other partners can manage the items dumped at the garbage pit.

Item 3.

The youth today are fond of spending most of their time using ICT mobile devices while on the road and being online late in the night, as reflected in images 1 and 2.

IMAGE 1: *https://missionaryjill.com/wp-content/up 1*

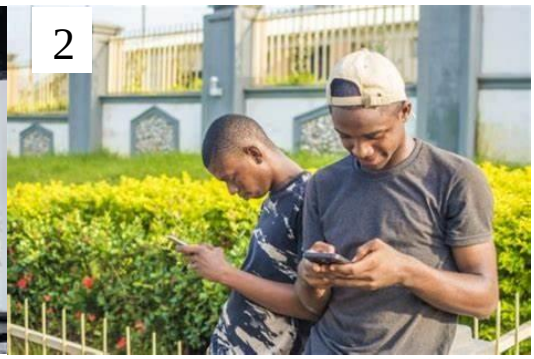

IMAGE 2: * 1*

Majority of the youth are not aware of the consequences of continuous use of ICTs and some have suffered ***health issues***, ***data loss*** and ***breach of privacy***.

The newly elected chairperson of the youth at the district wishes to address this challenge through a sensitization campaign on the theme "ICT's and the youth today".

Task

You have volunteered to talk to the youth. Prepare a presentation about these consequences and how they can be avoided.

Part II

Answer **one** *item from this part.*

Item 4.

Noeline is a qualified primary school teacher who has taught in a nursery school for quite some time. She has been earning a monthly salary of UGX 200,000 though not promptly paid.

She recently landed on her dream job in a newspaper advert below.

Sure Junior School

Website: https://www.sjsu.ac.ug

Vacancy title: Primary Teacher
Salary: UGX 1,000,000 monthly
Level of Education: Diploma in Education Primary

Job application procedure: Send your Application, Academic credentials and CV to: info@sjs.ac.ug
Deadline of this Job: Friday, April 26, 2024

The school requires applicants to submit their application letters, Curriculum Vitae (CV) and academic documents online. However, Noeline's academic documents are kept somewhere in an envelope and she does not know how to go about this process.

Task

If Noeline approaches you to guide her through the procedure, provide a write up showing required steps and ICT tools that Noeline should use to successfully submit her job application.

Item 5

The Government of Uganda wishes to boost all Saving and Credit Cooperative Organizations (SACCO) in various districts by providing them with funds.

A women's SACCO wishes to apply for the funds and the group does not want to miss out on this golden opportunity. They are required to access an online template, fill it with the SACCO details before the deadline which is soon.

The chairperson of the SACCO finds it challenging to download, fill and submit the filled form to the district website since she lacks ICT skills.

The form to be filled is shown below.

PROJECTS APPLICATION FORM

PROJECT IDNO: .....

(Assigned by the District Focal Point Person after Project Approval)

1.0 Project Identification Information:

1.1 Project Name:_____

1.2 Component *(i.e. Skills Development or Livelihood Support)*: _____

1.3 Sector *(e.g. Agriculture, Trade & Industry etc)*:_____

1.4 Project Type (*e.g. Dairy Production, Carpentry, Fish farming etc.*):_____

1.5 Project Location:

Village/Cell: _____ Parish/Ward: _____

Sub-county/Division/Town Council:_____

District: _____Location *(tick appropriate box)*: Rural [ ] Urban [ ]

1.6 Project Contact Person *(Name & Telephone of Chairperson of the Interest Group):*

Name:_____Telephone:_____

Task

The Chairperson approaches you to guide her through the required procedure. Provide a write-up indicating the necessary steps and ICTs to be used by the Chairperson.

END

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Paper 1
Theory

New Lower Secondary Curriculum

SCORING GUIDE

ITEM I

Competency (Basis of assessment)	**Evidence: Skill/ability exhibited/Score**	**SCORE**
Provides a focused introduction	Produces a focused introduction	**01**
Describes a minimum number of ICT tools/software that are required to setup a functional system.	• Identifies and describes **5** or more of the listed ICT tools/Software which will help Isaac improve his services and retain customers Computer set Digital camera Scanner Printer Application Software • Identifies and describes **3-4** of the listed ICT tools/Software which will help Isaac improve his services and retain customers • Identifies and describes **1-2** or more of the listed ICT tools/Software which will help Isaac improve his services and retain customers • Identifies and describes **1** of the listed ICT tools/Software which will help Isaac improve his services and retain customers • No response	**04** 03 02 01 00
Explains maintenance of ICT tools in good working condition	• Identifies and explains **5 or more** management measures of the listed ICTs/software • Identifies and explains **3-4** management measures of the listed ICTs/software • Identifies and explains **1-2** management measures of the listed ICTs/software • Identifies only **1** management measure of the listed ICTs/software • No response	04 03 02 01 00
Conclusion	Provides a relevant conclusion *(solution/judgement/recommendation)*	**01**
Format of presentation	A formal document: Either a Report, a letter, a CV or Proposal	**01**

Competences	Basis of assessment	Expected responses
T1(a-c) T2(a-d) T15(a-c) T16(c)	Mentioning relevant tools	• needs a desktop computer/Laptop with at least a i5 core processor(4.0GHz), 500GB of hard disk and 4GB of RAM. This computer will be capable of handling the kind of work at Mr. Bogere's business since he will be in position to process documents, edit photos as required by his clients.
T9 (a) T10(a) T12(a)	Explaining how the tool is used	• Un interruptible power supply unit. This device helps the user to continue working for a short time in case power goes off. This enables a user to save the client's work. The UPS will be connected to the wall socket, then the computer and its devices get from it. It also regulates the voltage reaching the devices. • The software. Software means electronic instructions that help the hardware accomplish tasks. • To prepare formal letters, business reports and organizing statistical data. For that he needs to obtain MS office suite. • In order to produce good photos and passport size photographs, He should install Adobe suite with packages such as photoshop, illustrator which can be used for photo editing. • The printer. A printer is a peripheral device that converts soft copy into hard copy. Digital-colored **all in one** printer with a speed of about 20 pages per minute to handle tasks such as scanning, printing passport size photos, formal letters and business reports and so on. A printer is connected to a computer using a data cable then its drivers can be installed. • has clients who inquire about photos. A digital camera will be used for taking clients photographs and passport size photos. The photos can then be transferred from the camera to the computer using USB cables, edited and then printed. • For clients with hard copies to be converted to softcopy, the tool needed is a scanner. This changes hard copy into soft copy.
	Management/ maintenance	• Cover ICT tools to avoid dust • Installing antivirus to protect ICT against virus attacks. • Use UPS to protect ICT tools from unstable power supply. • Switch off ICT tools after use • Regular servicing of ICT tools to keep them in good working conditions. • Regular updating of software

ITEM 2

Competency (Basis of assessment)	**Evidence: Skill/ability exhibited/Score**	**Score**
Provides a focused introduction	Produces a focused introduction	**01**
Explains the causes of breaking into the lab and theft of computer lab equipment	• Identifies and explains ***more than 4*** causes of insecurity in the laboratory. • Identifies and explains ***4*** causes of insecurity in the laboratory. • Identifies and explains ***2-3*** causes of insecurity in the laboratory. • Identifies and explains ***1*** causes of insecurity in the laboratory. • No response	**04** **03** **02** **01** **00**
Provides security measures and mitigation for improper-waste management	• Explains 3 measures, identifies key stake holders and their roles in e-waste management (1 measure for each listed stakeholder) o School Administration o Lab Attendant o Students o Community • Explains **less than 3** measures and identifies key stake holders in e-waste management of the listed stakeholders • Identifies and explains ***more than 4*** measures of insecurity in the laboratory. • Identifies and explains ***4*** measures of insecurity in the laboratory. • Identifies and explains ***2-3*** measures of insecurity in the laboratory. • Identifies and explains ***1*** measure of insecurity in the laboratory. • No response	**04** **03** **02** **01** **00** **01** **00**
Conclusion	Provides a relevant conclusion	**01**
Format of the presentation	A formal document	**01**

T1 d **T14 (a-c)** **T16 (a&b)**	**Explains the causes of breaking into the lab and theft of computer lab equipment and provide suitable mitigation/measures.** - **Approaches that can be taken to ensure proper e waste management and the how they can be applied**	- Weak doors, these make breaking in or forceful entry easier. This can be solved by using strong metallic doors with strong burglar proofing. - Weak or easy to manipulate locks/pad locks. These become easy to break or open. It can be solved by using strong locks or padlocks. - We can also use access control systems e.g., use of key cards or biometric scanners to control physical access. - Exposure of important hardware components e.g the server, external hard drives(keeping them in easy to reach areas. These have to be locked away in drawers, cabins or kept out of the computer laboratory. - Failure to monitor the computer laboratory especially in the night when its not in use. This gives ample time to thieves to plan and steal. It can be overcome by installing CCTV cameras/ 24/7 Surveillance systems. - It can also be solved by installing alarm systems that can go off and produce noise to notify the security personnel on the forceful entry. - Failure to mark, label hardware components which makes them easy to target and also difficult to find or trace in case of theft. Asset tagging or labelling makes it easy to track for items when stolen, we can also attach tracking devices to the important hardware components like the Server computer. - Inadequate Physical Inspection. There's supposed to be regular inspection of the laboratory to identify and solve any potential damage. - Discarded computer components contain toxic substances like lead, mercury, etc. these pollute soil and water. The school administration/teachers can reuse some of these components e.g by crafting them onto display boards for demonstration. - Improper e-waste disposal may lead to data breaches and identity theft. You may not know who will pick on the hard disk, flash disk and any other storage media you throw to the dust bin. The lab attendant may first try to repair or take the component for repair to extract off the information. - Health risks; improper handling and discarding of e-waste can cause health issues such as skin disorders, respiratory disorders, etc. to people such as waste pickers, children. Its important therefore to sensitize the school community/students on the right means of handling e-wastes. -You can also donate the out of use computers and other components to ICT repair shops. - Air pollution. Once thrown at the garbage pit by say lab attendant, e-waste may be burnt which exposes the community to harmful gasses. The school administration may sell off or donate the hardware components that are no longer in use.

Competences	Basis of assessment	Expected responses

ITEM 3

Competency (Basis of assessment)	Evidence: Skill/ability exhibited/Score	Score
Provides a focused introduction	Produces a focused introduction	**01**
Explains the consequences of continuous use of ICT	• Identifies and explains ***6 or more*** causes/consequences of ICT usage from the listed categories. *(2 for each of the mentioned challenges)* -health issues, -data loss and -breach of privacy • Identifies and explains ***4-5*** causes/consequences of ICT usage from the listed categories. • Identifies and explains ***2-3*** causes/consequences of ICT usage from the listed categories. • Identifies and explains ***1*** cause/consequence of ICT usage from the listed categories. • No response	**04** **03** **02** **01** **00**
Provides mitigation/measures	• Identifies and explains ***6 or more*** measures for the listed categories of challenges. *(2 for each of the listed challenges)* -health issues, -data loss and -breach of privacy • Identifies and explains ***4-5*** measures for the listed categories of challenges. • Identifies and explains ***2-3*** measures for the listed categories of challenges. • Identifies and explains ***1*** measure for the listed categories of challenges. • No response	**04** **03** **02** **01** **00**
Conclusion	Provides a relevant conclusion	**01**
Format of the presentation	A formal document	**01**

Assesses system security, safely uses ICTs and manages E-waste *Topic 1 d* *Topic 7 c* *Topic 8 (a-c)* *Topic 16 (a-b)*	Consequences of exposure to ICTs and the mitigation strategies	*<u>Consequences of continuous use of ICT tools.</u>* *Malware attacks like* - *Computer viruses. Copy themselves and corrupt the system* ***Mitigation.** Install an anti-virus, regularly update it and scan to detect, disinfect and delete viruses.* - *Trojan horses. Appears legitimate but performs malicious tasks* - *Worms. Self-replicate after breaching the system among others* ***Mitigation.** Do not use pirated software as this can be an entry point for Trojans and worms.* - *Phishing. sending emails that appear legitimate in order to induce individuals to reveal personal information* ***Mitigation.** Do not download information or open e-mails from untrusted sources* - ***Eavesdropping/ sniffing/ spoofing.** it involves intercepting and reading the data packets traversing through the network* **Mitigation.** *Encrypt the information travelling over the network* - ***Denial of Service (DoS). This overwhelms the network with excessive requests that exhaust the resources and make it inaccessible*** - ***Distributed Denial of Service (DDoS). The traffic flooding the network comes from multiple sources. Mitigation. Use of firewalls to block traffic from suspicious sources*** - **Short circuits. Caused by naked wires, power surges and liquid spills.** **Mitigation. Insulate all naked wires, don't brink liquids next to the ICTs and use UPS/ voltage stabilizers** ***Health risks*** - ***Eye defects like blurred vision, itchy, dry or red eyes. mitigation.** Use anti – glare screens* - ***Back pain, caused by sitting in a bad posture or for long*** ***mitigation.** Sit upright and get poses or breaks while using a computer* - ***Wrist pain, caused by injury, over use of the hand or repetitive stress.*** ***Mitigation. Set your work station right to avoid straining the hand, get breaks while using a computer and exercise the hand***

ITEM 4

Competency (Basis of assessment)	**Evidence: Skill/ability exhibited/Score**	**Score**
Provides a focused introduction	Produces a focused introduction	**01**
Describes procedure	• Identifies ***6 or more*** relevant steps with the necessary ICT tools • Identifies ***4-5*** relevant steps with the necessary ICT tools • Identifies ***2-3*** relevant steps with the necessary ICT tools. • Identifies 1 relevant step • No response	04 03 02 01 00
Follows a logical flow	Complete logical flow. Partial/incomplete Logical flow No logical flow	02 01 00
Conclusion	Provides a relevant conclusion *(solution/judgement/recommendation)*	01

Competences	**Basis Of Assessment**	**Expected Responses**
T3 (a,b) **T7 (a,b)** **T11 a**	**Steps/processes/procedures Followed to apply online**	**- Stage 1: Converting academic documents from hard copy to soft copy** **Tools:** scanners, scanning apps like CamScanner (CS), PC **Application:** get the document open the flatbed scanner cover place it there and cover, then press the scan button and save the documents. **Stage 2: Creating a CV** **Tools:** PC, desktop publishing or word processing software **Application:** start the computer. Go to all programs, Choose the appropriate MS-Publisher, Choose Resume, blank, then create. Design according to the layout apply appropriate graphics save the publication as ***CV*** on a hard disk/flash disk/phone/CD/email. **Stage 3: Typing an application letter by use of Word processors** **Tools:** PC, Word processors **Application:** Start the computer. Go to all programs, Choose blank document, type the letter, edit, format and save the document as ***Application Letter*** on a hard disk/flash

		disk/phone/CD/email. **Stage 4: convert all documents to PDF** **Tools:** PC, word processor, Desktop publisher **Application:** Open the document of interest Select file, save as Set the save as type to pdf and save **Stage 5: creating an email** **Tools:** PC, web browser **Application:** Open a web browser like google chrome. Enter ***gmail.com*** in the web address Select create account. Choose the type of account (personal account) Enter your personal information e.g. surname, first name, user name and password, confirm password click next and enter your phone number verify your account with the code sent to your phone **Stage 6: attaching the files (application letter, academic documents and CV) on online platform i.e. email** **Tools:** PC, Web browser **Application:** Open your e mail Select compose Enter the recipient's address (info@sjs.ac.ug) Compose a greeting line Select the attach button and browse to find the files (application letter, CV and academic documents) Select send.

ITEM 5

Competency (Basis of assessment)	**Evidence: Skill/ability exhibited/Score**	**Score**
Provides a focused introduction	**Produces a focused introduction**	**01**
Describes procedure	• Identifies ***6 or more*** relevant steps with the necessary ICT tools • Identifies ***4-5*** relevant steps with the necessary ICT tools • Identifies ***2-3*** relevant steps with the necessary ICT tools. • Identifies 1 relevant step • No response	04 03 02 01 00
Follows a logical flow	Complete logical flow. Partial/incomplete Logical flow No logical flow	02 01 00
Conclusion	Provides a relevant conclusion *(solution/judgement/recommendation)*	01

Competences	**Basis Of Assessment**	**Expected Responses**
T3 a,b T7 a,b T11 a T13 a	Describes relevant steps	-Access a computer -Downloading the form from the web -Filling the form -Taking some photos about the project -Printing the photos and forms -Scanning the filled forms& photos -Uploading the to the website
	Describes ICT tools used.	- Computers - camera - printer - scanner - flash disks - CDs - Modem - Mobile phones
	Procedure	-computer-(to access the website

		-camera-(to take pictures of the projects) -printer(print out the downloaded form and photos) -scanner(scanning the filled forms for uploading) -flash disk(storage of forms to fill just in case) -CD-(to store the soft copies for future use) -modem(connect to internet) -phone(taking mobile photos and communication)
	logical flow of steps	