

S850/1
Subsidiary Information and
Communications Technology
Paper 1
2026
2 hours



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Advanced Certificate of Education

SUBSIDIARY ICT

Paper 1
(Theory)

2 hours

INSTRUCTIONS TO CANDIDATES

*This examination paper consists of two sections; **A** and **B**. It has **three** items.*

*Section **A** is **compulsory**.*

*Section **B** has two optional items. Respond to **one** item from this section.*

*Any additional item responded to will **not** be scored.*

*Begin **each** item on a **fresh** page.*

***All** responses **must** be written in the answer booklet(s) provided.*

SECTION A

This section is compulsory.

Item 1

Tiannah presented a project proposal before the projects committee at school but unfortunately, it was not approved because: her presentation was not clear, engaging or appealing, and had insufficient information. This was largely because she had used an application with limited design features and only had access to the manual sources of information. The committee recommended that she should improve her presentation, share a PDF copy with the committee, keep a copy for her physical file and schedule a virtual meeting with the members of the committee. While editing her proposal, the computer abruptly shut down without her saving the changes and on turning it back, it displayed the image shown in **Figure 1** below.

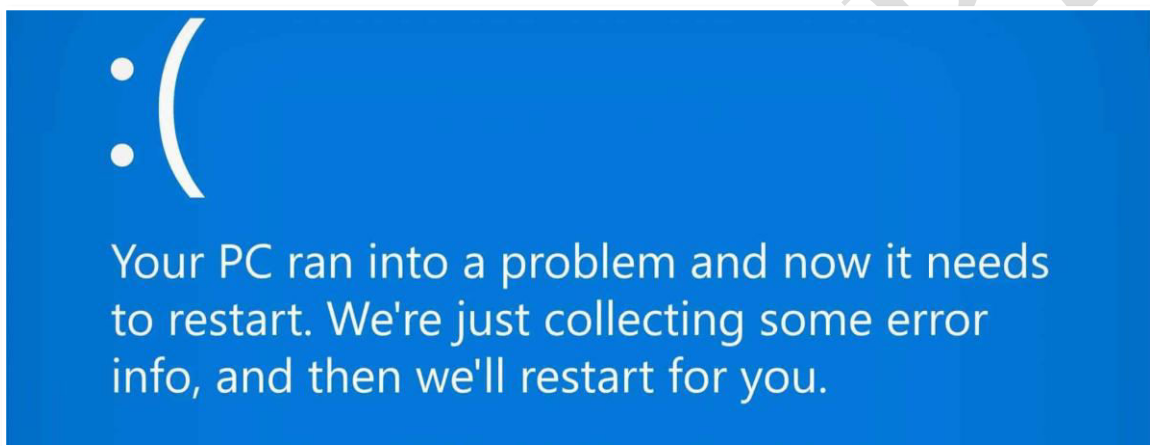


Fig 1: An image showing the message displayed by the computer.

She tried restarting the computer several times but it failed which caused her to panic, fearing that she might have lost her work yet she does not know how to proceed and therefore needs guidance.

Task:

- a) Assess Tiannah's situation and advise her on how to get her proposal approved.
- b) Analyze Tiannah's computer behavior and advise her on how its current situation and future challenges can be addressed .

SECTION B

*Answer only **one** item from this section.*

Item 2

Peter, a class coordinator, was requested by his teacher to host a virtual class in which different groups would present their assignments. Most students felt uneasy because they had never attended a virtual class and when one of the class members suggested use of Artificial Intelligence (AI) assistants to prepare the assignment, they objected.

Peter tried to guide but failed and you assisted the class in joining but they wondered how you did it. However, while waiting for the teacher to join the virtual class, some students exchanged online abusive messages causing Mary, one of the ICT students, to leave the online class. She claimed that online classes would expose her to insecurity just like her father who lost lots of money from his bank account.

Task:

- a) Develop guidelines to be followed by students in future to prepare a presentation and present their assignments.
- b) Evaluate the learners' conduct in the virtual class and give your opinion on what Mary's father should have done to avoid the loss.

Item 3

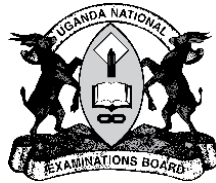
Cringle Investments purchased a customisable Finance Management Software (FMS) and trained staff, except Rodney who was absent. Upon returning, Rodney decided to spend the weekend learning how to use the software independently. However, when he searched online, he found that the software developer for the FMS had not yet provided online tutorials or user guides.

His colleague agreed to guide him by remotely accessing and interacting with the FMS on Rodney's desktop. In addition, Rodney considered using generative Artificial Intelligence (AI) to conduct a deep analysis and draw accurate conclusions from existing financial trends, but he did not know the best digital tools to achieve this.

At the same time, trending news on the company's media platforms indicated that one of the employees had been using the company's email system and unauthorized software to spy on colleagues. This exposed the company to cyber vulnerabilities and resulted in significant losses because it had to compensate affected clients whose data was illegally used by some of the **Cringle Investments** staff. Although most employees were angry about being spied on, they did not fully understand how the incident affected them.

Task:

- a) Examine how digital tools can be used to help Rodney receive guidance while learning to use the FMS.
- b) Assess how the company would safeguard itself from such vulnerabilities.



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**S850/1 INFORMATION &
COMMUNICATIONS
TECHNOLOGY (ICT)**

**SCORING GUIDE
FOR THE SAMPLE PAPER**

ITEM 1

The candidate is expected to;

- *Assess the situation and suggest the necessary ICT tools with their functions in addressing the challenges in the scenario.*
- *Analyse the computer problems and describe steps to troubleshoot the existing computer challenge in the scenario and describe maintenance practices to keep the system in a good working condition*

Possible responses

a)

Tiannah's presentation had several challenges including not being clear, engaging or appealing. It also had insufficient information and the program used to do her work had limited features. Tiannah can thus use various ICT tools to improve her project proposal presentation so as to be accepted by the projects committee. These tools will help her make the presentation more attractive, informative, professional, and suitable for both physical and virtual submission.

Computer / Smart Phone

A computer or smart phone can be used as a platform for preparing, editing, storing, and presenting the project proposal. It can also be used to host or join a virtual meeting with the projects committee through online communication platforms such as Zoom, Google Meet, or Microsoft Teams. In addition, it enables Tiannah to access online learning materials and communicate with committee members through email or messaging applications.

Internet Connection / Modem / Router / Mi-Fi / Wi-Fi / Mobile Hotspot

An internet connection enables Tiannah to search for relevant and updated information online to improve the content of her proposal. She can access digital libraries, websites, journals, videos, and online tutorials for research purposes. The internet also allows her to send emails, share documents, upload files, and participate in virtual meetings with the projects committee.

Presentation Software

Presentation software such as Microsoft PowerPoint, Google Slides, or Canva can help Tiannah create a clear, engaging, and appealing presentation. She can improve her slides by adding animations, transitions, charts, images, audio, and videos to make the proposal more attractive and easier to understand. The software also allows her to

organise information properly and present sufficient details in a professional manner. A word processor such as Microsoft Word can also be used to prepare and format detailed proposal content before presenting it.

Printer

A printer can be used to produce a hard copy of the project proposal for filing and submission purposes. This enables Tiannah to keep a physical copy in her file as recommended by the committee. Printed copies can also be shared with committee members during discussions or presentations.

PDF Converter

A PDF converter can help Tiannah convert her proposal or presentation into PDF format for easy sharing and viewing on different devices. PDF files preserve the original formatting of the document and reduce chances of accidental editing. The PDF copy can be attached to emails or uploaded to online platforms for submission to the committee.

Video conferencing software

Video conferencing software such as Zoom, Google Meet, Skype, or Microsoft Teams can be used to schedule and conduct a virtual meeting with the projects committee. Through these platforms, Tiannah can present her proposal online, share her screen, answer questions, and receive feedback from committee members in real time.

Speaker and Microphone

Speakers and microphones help improve communication during the virtual meeting. The microphone enables Tiannah to speak clearly and be heard by the committee members, while the speakers allow her to hear questions, comments, and feedback from participants during the online presentation.

b) Her computer's current situation can be solved by following the following steps. Start Windows Automatic Repair if Windows cannot start normally following the steps below.

1. Hold down the shift key and restart the computer to open the recovery environment trouble shoot options
2. Select trouble shoot to display tools to fix startup problems
3. Select advanced options to choose from the different repair tools available e.g. system restore, command prompt, startup settings or start up repair.
4. Select startup repair for windows (in case of windows) to start scanning for startup problems.

5. Allow the system to diagnose and repair. The computer might restart automatically.

In an effort to prevent the reoccurrence of a blue screen in future, the following should be done:

- Tiannah should always connect the computer to a UPS to keep power in case of power failure and allow her to properly shut down in case of power outage. Improper shut down can corrupt the system files and cause a blue screen.
- Tiannah should always update the operating system to fix software bugs. i.e. Open settings, go to windows update and check for updates.
- Install reliable antivirus software like Microsoft defender, Avast and Kaspersky to scan, detect and disinfect viruses which can damage system files, cause system crashes hence blue screens.
- If it's a computer, keep the base raised to avoid over heating that can lead to hard disk failure hence a blue screen. Always clean dust from fans and vents and avoid blocking ventilation openings.
- Regularly check hardware for faults (RAM, Hard drive or SSD, power supply or graphics card) which may cause a blue screen by running windows memory diagnostic.

ITEM 2

The candidate is expected to;

- *Develop a set of procedures followed to accomplish the given task and sharing it using AI and other online platforms respectively.*
- *Identify the challenge in the scenario, explain it by relating it to ICT ethical concepts and finally giving possible solutions/ mitigations to the challenges identified*

Possible responses:

a)

Start by connecting a computer or smartphone to the internet using a modem, Mi-Fi, mobile hotspot or Wi-Fi so that one can access generative AI tools and other online services needed to prepare the presentation.

Open an AI presentation tool such as Microsoft Copilot, Canva, Gamma, Tome or Beautiful.ai to help in automatically creating professional presentation slides.

After opening the AI tool, provide a clear prompt describing the presentation topic, purpose and number of slides required so that the AI can generate an outline automatically.

Continue by using the AI assistant to expand the content on each slide. The AI helps to improve wording, shorten long paragraphs and make the slides clear and professional.

Then describe the visual design elements one wants such as colour themes, graphics, charts, images, illustrations and slide layouts so that the presentation becomes more attractive and easier to understand.

After generating the slides, refine the presentation by removing unnecessary text, correcting errors, checking facts and arranging the slides in a logical flow.

Save or download the presentation in an appropriate file format such as PowerPoint or PDF and kept a copy on the computer for presentation purposes.

To host the virtual lesson on Zoom, one first goes to Zoom website and sign in to the account. For the students who never had accounts, ask them to first create accounts.

Then clicke on “Host a Meeting” and chose to turn the camera on or off depending on the meeting requirements.

After creating the meeting, copy the meeting link and share it with classmates through WhatsApp or email so that they can join the virtual class.

During the meeting, use the share screen option to display the presentation to the class and guide learners during their presentations.

One can manage the meeting by muting and unmuting participants where necessary, using the chat section for communication and recording the meeting if needed.

At the end of the lesson, click “End Meeting” to close the virtual class for all participants.

Alternatively,

One can use Google Meet by visiting meet.google.com and signing in using my Google account.

One would then click “New Meeting” to start an instant meeting, schedule a meeting or create a meeting link for later use.

After creating the meeting, copy and share the meeting link with participants through email or WhatsApp so that they can join the class online.

During the Google Meet session, control the camera and microphone, present one's screen, use the chat feature and mute participants when necessary.

Finally, end the meeting by clicking the red phone icon after all presentations and discussions are completed.

b)

The students' conduct of sending abusive messages to each other while attending a virtual lesson was unethical. There is need for learners to be respectful and polite while online. Peter's classmates should have avoided using abusive language, insults or offensive comments during the virtual lesson and instead respected one another's opinions and feelings.

Learners should also think before posting messages online. They should avoid sharing harmful or embarrassing information because anything shared online can remain permanent and may negatively affect others.

There is also need to use clear and professional language during online discussions. Learners should avoid excessive slang, poor grammar and typing in capital letters because it may appear as if they are shouting.

Learners should respect privacy while using online platforms. They should avoid sharing another person's personal information, pictures or messages without permission.

There is need to avoid spamming during online meetings. Peter's classmates should not send repeated, irrelevant or unnecessary messages that may distract other learners during the virtual class.

Learners should give credit to original authors whenever using information, images or ideas from other people. This helps to avoid plagiarism and promotes honesty in academic work.

There is also need to behave responsibly during online discussions. Learners should stay focused on the lesson, read messages carefully before responding and avoid spreading false information.

Learners should follow the rules and guidelines of the online platform being used. They should obey meeting regulations concerning respectful communication, harassment and proper online conduct.

To protect himself from losing money online, Mary's father should have used strong passwords containing letters, numbers and symbols instead of simple passwords that are easy to guess.

He should also have protected his personal information by avoiding sharing sensitive details such as bank information, passwords, private photos or videos online.

There was also need to use secure websites when making online transactions. He should ensure that websites begin with "https://" and only use trusted online platforms.

Mary's father should have enabled privacy settings on his social media and online accounts to limit access to trusted people only.

He should also have avoided suspicious links, emails and attachments because some may contain viruses or phishing scams intended to steal personal or banking information.

There was need to install security software such as antivirus programs and firewalls to protect his devices from hackers, malware and online attacks.

Finally, Mary's father should have reported online fraud, cyberbullying or suspicious online activities to the relevant authorities and sought assistance whenever necessary.

Item 3

The candidate is expected to:

- *Describe steps to be followed when accessing and sharing electronic data to solve the challenge in the scenario.*
- *Assess different cyber insecurities faced by employee/organisation during their online interaction and how to mitigate them*

(a)

Rodney is going to connect his computer to the internet using Wi-Fi, a modem, Mi-Fi, or a mobile hotspot so that he can access online digital services and communicate with his colleague remotely.

After connecting to the internet, Rodney is going to open a remote access application such as TeamViewer, AnyDesk, Chrome Remote Desktop, or Microsoft Quick Assist on his computer to allow his colleague to remotely guide him while using the Finance Management Software (FMS).

Rodney is going to log into the remote desktop application and share the generated ID and password with his colleague. His colleague is then going to enter the ID and password and connect to Rodney's desktop remotely.

Once the connection is successful, Rodney's colleague is going to demonstrate how to use the Finance Management Software by showing Rodney how to enter data, generate reports, save files, and navigate through different features of the system. Rodney is going to follow the instructions carefully while observing the activities on his screen.

After completing the lesson, Rodney is going to disconnect the remote access session to safely end the connection between the two computers.

Rodney is also going to use generative Artificial Intelligence (AI) tools to analyse financial information and draw accurate conclusions from the company's financial trends. To do this, Rodney is going to connect his computer or smartphone to the internet using Wi-Fi, a modem, Mi-Fi, or a mobile hotspot.

Rodney is going to choose an AI assistant such as ChatGPT or Microsoft Copilot and sign in or continue as a guest. He is then going to upload spreadsheets and financial information from the company records into the AI tool for analysis.

Rodney is going to ask the AI assistant analytical questions such as "What trends can be observed in the revenue data?" and "Which periods recorded the highest profits and expenses?" so that the AI can provide detailed financial insights.

Rodney is also going to instruct the AI assistant to generate graphs, charts, and visual reports showing revenue trends, expenditure patterns, profit margins, and yearly comparisons to make the financial information easier to understand.

After receiving the AI-generated analysis, Rodney is going to review the results carefully by cross-checking calculations, interpreting profit and loss trends, identifying growth patterns, and examining financial forecasts.

Finally, Rodney is going to copy the generated insights and use a word processor or presentation software to prepare a report or presentation for management.

(b)

Cringle Investments should install updated antivirus software, firewalls, and anti-spyware programs on all company computers to detect and prevent cyber threats such as spyware and hacking. The presence of viruses on computers makes computers vulnerable to external attacks.

The company should restrict employees from installing unauthorized software on company computers. Only approved software should be installed by the ICT administrator to reduce security risks. Some of these unauthorized software may be spyware which makes organisation computer vulnerable.

Cringle Investments should require employees to use strong passwords and enable two-factor authentication on company systems and email accounts to prevent unauthorized access.

The company should regularly update its operating systems, Finance Management Software, and security applications to fix software bugs and close security loopholes.

Cringle Investments should organize cybersecurity training sessions to educate employees about phishing, spyware, hacking, email scams, and other cyber threats so that employees can use company systems responsibly.

Employees should be advised not to spy on colleagues, install unauthorized software, access confidential information illegally, or misuse company email systems because such actions can expose the company to cyber vulnerabilities and financial losses.

Workers should be encouraged to use company computers and internet services only for official duties and to report suspicious emails, files, or activities to the ICT department immediately.

The company should implement strong cybersecurity policies that regulate how employees use company digital systems to create accountability and protect company systems. For example:

- Prohibit the installation of unauthorized software,
- restrict misuse of company email systems,
- Define acceptable use of company devices and networks
- Outline penalties for violating cybersecurity rules

By implementing these measures, Cringle Investments is going to improve cybersecurity, protect employee privacy, reduce financial losses, and promote responsible use of digital systems within the organization.