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**UACE S850 Subsidiary Information and communication technology (ICT) Paper 1 2023**

**2 ½ hour**

**Answer all questions**

1. (a) Define the term computer (02marks)

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.....  
.....

(b) Give any three peripheral devices of a desktop computer (03marks)

- (i) .....
- (ii) .....
- (iii) .....

2. (a) State one reason why a computer laboratory should have (03 marks)

- (i) A good lighting system  
.....  
.....
- (ii) A well ventilated environment  
.....  
.....
- (iii) Appropriate furniture  
.....  
.....

3. Outline the negative impact of ICT on the following

(a) Economic sector (02marks)

- (i) .....
- (ii) .....

(b) Social sector (02marks)

- (i) .....
- (ii) .....
- (iii) .....

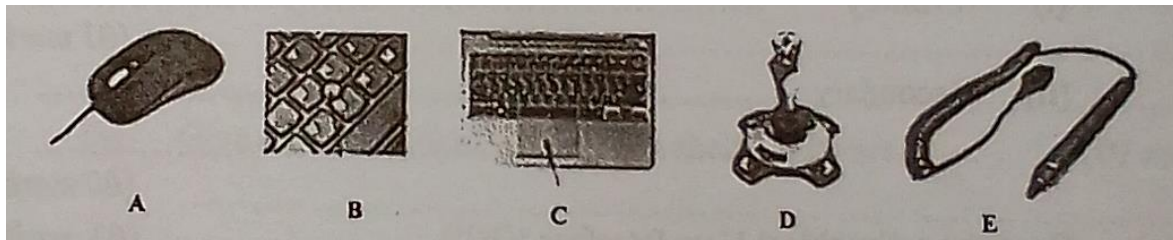
4. (a) Describe the booting process of a computer (03marks)

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.....  
.....

(b) State two possible consequences a computer may encounter whenever improper shut down is done. (02 marks)

- (i) .....
- (ii) .....

5. Identify the follow input



- A .....
- B .....
- C .....
- D .....
- E .....

6. (a) Differentiate between system files and Document files (02 marks)

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.....  
.....  
.....

(b) Give any three circumstances under which a computer user may choose the option **save as** in a file menu

(i) .....

(ii) .....

(iii) .....

7 (a) Distinguish between **primary storage** and **secondary storage** (02marks)

.....  
.....  
.....

(b) Name one example of primary storage and two examples of secondary storage

(i) Primary ..... (01 marks)

(ii) Secondary ..... (02marks)

8. (a) Describe a Graphical User Interface (GUI) (02marks)

.....  
.....

(b) State one function of each of the following desktop icons (03 marks)

(i) My computer

.....  
.....

(ii) Recycle bin

.....  
.....

(iii) My document

.....  
.....

9. Define the following terms in relation to computer data processing:

(a) Processor speed (02 marks)

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.....  
.....

(b) Fetching (01 mark)

.....  
.....

(c) Decoding (02 marks)

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.....

10. (a) Explain any two elements of the “off-the-shelf” software. (04marks)

(i) .....

.....

.....

(ii) .....

.....

.....

(b) Give one example of the “off-the-shelf” software (01 mark)

.....

11. (a) List any **two** requirements for internet connection (02marks)

(i) .....

(ii) .....

(b) Outline three advantages of internet connectivity (03marks)

(i) .....

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(ii) .....

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(iii).....

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12. (a) State one function of each of the following utility programs (03marks)

(i) Diagnostic utility

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(ii) File compression Utility

.....  
.....

(iii) Antivirus Utility

.....  
.....

(b) Outline two ways of reducing the spread of computer viruses.

(i) .....

(ii) .....

.....

13. (a) Write WWW in full as used in internet technology (01 marks)

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(b) Distinguish between a **Web browser** and **search engine** (02marks)

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.....

(c) Give an example of a (02marks)

(i) Web browser .....

(ii) Search engine .....

14. (a) Differentiate between IP address and domain name (02 marks)

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.....

(b) Describe each of the following protocols in relation to data communication

(i) Simple Mail Transfer Protocol (SMTP) (01 mark)

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(ii) Post Office Protocol (POP) (01marks)

.....  
.....

(iii) Hypertext Transfer Protocol (HTTP) (01mark)

.....  
.....

15. (a) Outline any three violation of computer ethic usage by computer user

(i) .....

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(ii) .....

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(iii).....

.....

(b) Suggest two measures that should be put in place to guard against information piracy in an organization (02marks)

(i) .....

.....

(ii) .....

.....

16. List five elements of data communication (05 marks)

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

17. The table below shows a budget for introduction ceremony.

	A	B	C	D	E
1	ITEM	UNIT COST	QUANTITY	TOTAL COST IN SHS	TOTAL COST IN £
2	Cultural dress	180,000	2		
3	Food	3,500	150		
4	Decoration	1,200,000	1		
5	Soda	19,000	13		
6	Mineral water	15,000	5		
7	Exchange rate of £1 = 4,630				

(a) Which computer application was used to design the given budget? (01 mark)

.....

(b) Identify the cell formatting feature which was applied to contents in D1 and E1 (01mark)

.....

(c) Write down the formula that would be used to compute

(i) TOTAL COST in shillings (Shs) (01mark)

.....

(ii) TOTAL COST in pounds (£) (use the exchange rate in cell B7) (02marks)

.....

18. Describe any five tasks that are performed by digital forensic specialists (05marks)

(i) .....

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(ii) .....

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(iii) .....

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(iv) .....

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(v) .....

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19. (a) State the use of each of the following features in a presentation:

(i) slide looping

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.....

(ii) Slide transition

.....  
.....

(iii) Hyperlinks

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.....

(b) Give **one** advantage of using the following in presentations

(i) Handouts

.....  
.....

(ii) Note pages

.....  
.....

20. (a) Outline any two uses of a server in a computer networking. (02 marks)

(i) .....

.....

(ii) .....

.....

(b) Name three types of computer networks (03 marks)

(i) .....

.....

(ii) .....

.....

(iii) .....

.....



## Suggested answers

1. (a) Define the term computer (02marks)

A computer is an electronic device that stores, retrieves, processes data and present it in the form the user desires. A computer operates under the control of a set of instructions that is stored in its memory unit.

(b) Give any three peripheral devices of a desktop computer (03marks)

- Input devices: Keyboards, mice, scanners, and webcams.
- Output devices: Monitors, printers, and speakers.
- Storage media: CD/DVD drives, external hard drives, and USB thumb drives.
- Communication devices: Network adapters and modems.
- Specialty devices: Game controllers and musical instrument

**(pick any three)**

**NB.** A peripheral device is a device that either enters information into a computer system or receives information from the computer system

**They include**

- Input devices allow you to enter data on a computer, such as a keyboard or a mouse.
- Output devices allow you to see what is happening on the computer screen, such as a monitor or printer.
- Storage peripheral devices store data, such as a hard drive, pen drive, or SSDs.
- Internal peripheral devices are connected to the PC motherboard, including memory and video cards.

2. (a) State one reason why a computer laboratory should have (03 marks)

(i) A good lighting system

- ensures clear visibility,
- reduces the risk of accidents,
- enhances accuracy in tasks, and
- promotes the well-being of lab personnel.

(ii) A well ventilated environment

- provide fresh air to the computer operator
- control temperature in the laboratory and computer reducing fire hazards
- controls humidity in the laboratory

(iii) Appropriate furniture

- ensure proper utilization of space
- contributes to posture, comfort and wellbeing of laboratory personnel
- Ensures safety and compliance with regulatory standards.

-

3. Outline the negative impact of ICT on the following

(a) Economic sector (02marks)

- **Unemployment:** Automation and advanced technologies can lead to job losses, especially in roles that are easily automated.
- **Cyber security Risks:** Increased reliance on ICT makes businesses vulnerable to cyber-attacks, data breaches, and other security threats
- **High Costs:** Implementing and maintaining ICT systems can be expensive.
- **Workplace Distraction:** The constant connectivity provided by ICT can lead to distractions and decreased productivity
- **Technological Dependence:** Over-reliance on technology can make businesses vulnerable if systems fail.
- **Work-Life Balance:** ICT blurs the boundaries between work and personal life.

(b) Social sector (02marks)

- **Digital Divide:** Not everyone has equal access to ICT, which can exacerbate social inequalities.
- **Privacy Concerns:** The use of ICT in social services often involves handling sensitive personal data that may be pirated.
- **Social Isolation:** Over-reliance on digital communication can lead to social isolation.
- **Mental Health Issues:** Excessive use of ICT, particularly social media, has been linked to mental health issues such as anxiety, depression, and stress.
- **Dependence on Technology:** Over-reliance on ICT can lead to a lack of basic skills and knowledge.
- **Resource Intensive:** Implementing and maintaining ICT systems can be costly and resource-intensive.

4. (a) Describe the booting process of a computer (03marks)

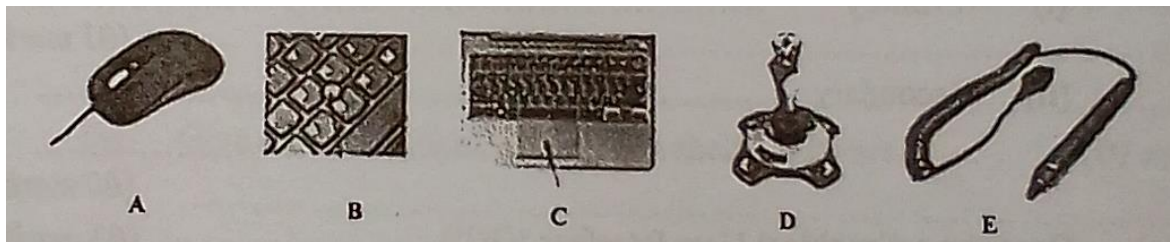
The booting process of a computer involves the following steps:

- **Running BIOS:** When the computer is turned on, the CPU looks for the BIOS (Basic Input/output System) program and runs it.
- **Running POST (Power-On Self-Test):** The system checks hardware components for errors during this step.
- **Loading MBR (Master Boot Record) to RAM:** The MBR contains information about the partitions and the boot-loader.
- **Running the Boot-loader:** The boot-loader loads the operating system.
- **Running the OS (operating system):** the OS kernel gains access to the hardware components

(b) State two possible consequences a computer may encounter whenever improper shut down is done. (02 marks)

- Loss of unsaved documents
- Corruption Unsaved Work:
- Can cause damage to hard drive
- Damages software and operating System
- Decreased Lifespan of Components

5. Identify the follow input



A – mouse

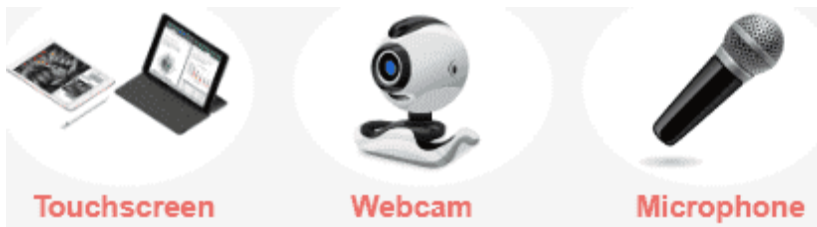
B – Keyboard

C – touchpad

D – joystick

E - light pen

Others input devices include



Touchscreen

Webcam

Microphone



OCR



Scanner



Trackball



MICR



USB-Bluetooth



Camera

6. (a) Differentiate between system files and Document files (02 marks)

System files are files that are necessary for your computer to run while document files that can be viewed or edited by a human user.

(b) Give any three circumstances under which a computer user may choose the option **save as** in a file menu

- (i) Press Alt + F to open the file menu; Let go of all keys when the file menu appears and Press " A " to choose the Save As option.
- (ii) Click the **File** tab (File menu) and choose **SAVE AS**.
- (iii) alt + F + A
- (iv) F12

7. (a) Distinguish between **primary storage** and **secondary storage** (02marks)

**Primary storage** is the temporary, volatile storage of information when the computer is running that it is directly accessible by the CPU (central processing unit) while secondary storage is the type of storage that provides long term storage for software programs and data even when the computer is turned off.

(b) Name one example of primary storage and two examples of secondary storage

- (i) Primary – RAM, ROM, cache memory (01 mark)
- (ii) Secondary - hard disk drives, solid state drives, USB drives, CDs, and DVDs, floppy disc, external hard disk, ZIP, (02marks)

8. (a) Describe a Graphical User Interface (GUI) (02marks)

A graphical user interface, or GUI , is a **form of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation.**

(b) State one function of each of the following desktop icons (03 marks)

(i) My computer

It a graphical feature that makes it easier to access software programs, files, or functions on a computer screen.

(ii) Recycle bin

It is a graphical feature that makes it easier to access the folder that contains deleted files.

(iii) My document

It is a graphical feature that makes it easier to access the folder that store documents and other associated with programs on the computer

9. Define the following terms in relation to computer data processing:

(a) Processor speed (02 marks)

It is the number of cycles per second in which a CPU can process instructions.

(b) Fetching (01 mark)

**Fetching** is the **retrieval** of information from a source, such as a database, network, or storage medium. After being retrieved, the data is moved to an alternate location or displayed on a screen.

(c) Decoding (02 marks)

Decoding is a process of interpretation and translation of coded information into a understandable form.

10. (a) Explain any two elements of the “off-the-shelf” software. (04marks)

(i) standardized programs that massively produced and ready for use

(iii) they are not explicitly tailored but rather universal and made for widespread business use

(iii) are easily integrated with existing systems without complex configurations.

(b) Give one example of the “off-the-shelf” software (01 mark)

- Editor programs- examples include Photoshop, Lightroom, Facetune
- Mail services- examples include Gmail, Outlook, Zohomail
- Media players- examples are VLC, Windows Media player
- Operating systems- examples are Windows, Mac
- Antiviruses programs- examples are Kaspersky, Norton

11. (a) List any **two** requirements for internet connection (02marks)

- A computer or device.
- An Internet Service Provider (ISP).

- A telephone or cable line.
- A modem or a network card.
- A company providing Internet connection(ISP)
- Communication Software (Web browser)

(b) Outline three advantages of internet connectivity (03marks)

- Faster communication
- Access to information
- Transfer of research papers
- Advertising
- Marketing
- Easy banking
- Access to a global audience
- More efficient government services.
- Cultural sharing and diversity.
- Virtually unlimited entertainment options, videos and music

12. (a) State one function of each of the following utility programs (03marks)

(i) Diagnostic utility

A diagnostic utility is software used **to troubleshoot a problem on the computer system**. It provides clues about the causes of problematic computer symptoms.

(ii) File compression Utility

File compression Utility a program that compresses and decompresses various file types

(iii) Antivirus Utility

An antivirus is a program that helps to keep the computer virus-free.

**NB.** Utility software is a program or tool that performs specific tasks to enhance productivity, efficiency, functionality, or maintenance of a computer system.

(b) Outline two ways of reducing the spread of computer viruses.

- Install antivirus and anti-malware software.
- Avoid sharing flash disks
- Avoid installing programs and files unsecure sources
- Regularly update antivirus software.
- Do not open unsecure email attachments.

- Back up your data.

13. (a) Write WWW in full as used in internet technology (01 marks)

WWW means World Wide Web

(b) Distinguish between a **Web browser** and **search engine** (02marks)

A web browser is a program used to access and view websites or website information.

A search engine is a software program that helps people find the information they are looking for online using keywords or phrases.

(c) Give an example of a (02marks)

(i) Web browser: Google chrome, opera, Internet Explorer, Mozilla Firefox

(ii) Search engine: Google, Yahoo!, and MSN Search.

14. (a) Differentiate between IP address and domain name (02 marks)

An Internet Protocol (IP) address is the unique identifying number assigned to every device connected to the internet.

A domain name is **web address that helps users find your website.**

(b) Describe each of the following protocols in relation to data communication

(i) Simple Mail Transfer Protocol (SMTP) (01 mark)

It is a set of rules and guidelines for transmitting electronic mail (email) over a network.

(ii) Post Office Protocol (POP) (01marks)

It is a network server by which client-based e-mail programs are connected to access a user's e-mail on a central server.

(iii) Hypertext Transfer Protocol (HTTP) (01mark)

It is a set of rules and guidelines for transmitting hypermedia documents, such as HTML

**NB.** A protocol is a set of rules and guidelines for communicating data. These rules define how computer or devices should interact during communication, ensuring successful data transmissions.

15. (a) Outline any three violation of computer ethic usage by computer user

- Illegally downloading movies, music, software, etc., from the internet.
- Internet fraud/theft
- Duplicating copyrighted content without the author's approval
- Accessing personal information of others
- Hacking is an unethical practice that involves unauthorized access to computer systems, networks, or data, often with malicious intent.
- Cutting and pasting a paper together using online materials without appropriate citations.
- 

(b) Suggest two measures that should be put in place to guard against information piracy in an organization (02marks)

- protect data with password
- restrict access to company computers
- Use of watermarking to make pirate content traceable.
- Report pirated content to marketplaces
- Educating work that information piracy is illegal
- Use of Legal & Enforcement to punish those involved in information piracy

16. List five elements of data communication (05 marks)

- sender,
- receiver,
- communication medium,
- the message to be communicated, and
- certain rules called protocols to be followed during communication.

17. The table below shows a budget for introduction ceremony.

	A	B	C	D	E
1	ITEM	UNIT COST	QUANTITY	TOTAL COST IN SHS	TOTAL COST IN £
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5	Soda	19,000	13		
6	Mineral water	15,000	5		
7	Exchange rate of £1 = 4,630				

(a) Which computer application was used to design the given budget? (01 mark)



Excel

(b) Identify the cell formatting feature which was applied to contents in D1 and E1  
(01mark)

Capitalize

(c) Write down the formula that would be used to compute

(i) TOTAL COST in shillings (Shs) (01mark)

$$D2 =(b2*c2)$$

$$D3 =(b3*c3)$$

$$D4 =(b4*c4)$$

$$D5 =(b5*c5)$$

$$D6 =(b6*c6)$$

(ii) TOTAL COST in pounds (£) (use the exchange rate in cell B7) (02marks)

$$E2 =(D2/4,630)$$

$$E3 =(D3/4,630)$$

$$E4 =(D4/4,630)$$

$$E5 =(D5/4,630)$$

$$E6 =(D6/4,630)$$

18. Describe any five tasks that are performed by digital forensic specialists (05marks)

- Gathering evidence from cybercrimes.
- Retrieving data from virtual networks and physical devices.
- Reconstructing events that led to a cyber-attack.
- Recovering data compromised in a hack.
- Reconstructing and restoring data damaged or erased from devices.
- Reporting cybercrimes
- Protecting data
- Continuous Learning and Training
- Collaboration with Other Professionals

19. (a) State the use of each of the following features in a presentation:

(i) slide looping

A looping slideshow displays each slide automatically for a certain amount of time. Once that time has elapsed, the slide automatically continues to the next slide.

(ii) Slide transition

Slide transitions are the animation-like effects that happen when you move from one slide to the next during a presentation.

(iii) Hyperlinks

They are words, shapes, or images, when clicked allow movement between slides or redirects computer user to a specified url

(b) Give **one** advantage of using the following in presentations

(i) Handouts

- Ensure the contents of an oral presentation can be reviewed by the audience after the presentation.
- avoid information congestion on slides because some of information is presented in handouts
- keep the presentation on track,
- remind the audience of the message,
- allow audience follow-up and retain viewers' attention.

(ii) Note pages

- to create beautiful presentation artifacts for audiences.
- Help the presenter to remember the main points

20. (a) Outline any two uses of a server in a computer networking. (02 marks)

- Store and manage and computes data on a network
- Enable sharing of printers by computers on the network
- Enables sharing of software by computers on the network
- Processes requests from clients
- Enable sharing of internet by the computers on the network
- Enable interactive activities like games be played by users on the network

(b) Name three types of computer networks (03 marks)

- **Personal area network** (single person network)
- **Local area network** (multiple computer network)

- **Campus network** (several building network)
- **Metropolitan area network** (city-wide network)
- **Wide area network** (Global network)
- **Wireless LAN**
- **Storage area network** (High-speed storage network)
- **Home network** (home-base network)
- **System area network** (High-performance network)

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Thanks

Dr. Bbosa Science