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

2 ½ hour

Answer all questions

1. (a) List three major specification one would consider when buying a laptop computer (03marks)

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

(b) Illustrate the information processing cycle (03marks)

2. (a) distinguish between cold booting and warm booting (02 marks)

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(b) Give **three** circumstances under which a computer can be warm booted.

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

.....

3. (a) What is information and Communication Technology (ICT)?

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.....
.....

(b) Outline any three measures that can be taken to prevent environmental degradation through the use of ICT. (03marks)

(i)

.....

(ii)

.....

(iii)

.....

4. (a) Give two reasons why file management is important in computer system (02marks)

(i)

.....

(ii)

.....

(b) List three operations which can be performed on a file (03 marks)

(i)

(ii)

(iii)

5. (a) explain the term troubleshooting as used in computers. (02marks)

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

(b) State three ways in which one can troubleshoot a computer that has failed to start.

(i)

.....

(ii)

.....

(iii)

.....

6. (a) Define an input device (01 marks)

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.....

(b) Name two basic input device associated with common desktop computer

(i)

(ii)

(c) Identify an input device for each of the following data: (02marks)

(i) sound

(ii) Images.....

7 (a) Name three functions of operating system (02marks)

(i)

(ii)

(iii)

(b) Name any two operating system software (02marks)

(i)

(ii)

8. Ali has a DVD full of data and would like to transfer the data to CDs. The capacity of the DVD is 4.7GB and each CD is 700MB. Calculate the number of CD's he needs to transfer all his dat. (05marks)

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9. (a) Define the term tailor-made software (01marks)

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(b) Outline any four qualities of good application software

- (i)
- (ii)
- (iii)
- (iv)

10. (a) Write the following computer abbreviations in full. (02marks)

- (i) CPU
- (ii) ALU

(b) State the role of each of the following CPU components (03 marks)

- (i) BUS
- (ii) Control unit
- (iii) Registers

11. (a) Distinguish between utilities and application software (02marks)

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(b) Give three examples of utility programs. (03marks)

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

12. Explain the following as applied to internet

(i) Hotspot (02 marks)

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(ii) Internet Service provider (01mark)

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(iii) search Engine (02marks)

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13. Give five symptoms of a computer infected by a virus (05 marks)

(i)

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(ii)

.....

(iii)

.....

(iv)

.....

(v)

.....

14. (a) Give two reasons to justify ownership of institutional website (02 marks)

(i)

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(ii)
.....

(b) (i) What is a web browser? (01 mark)

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(ii) Under what circumstances can someone use a Uniform Resource Locator (URL) in a web browser? (02marks)

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15. Give any five advantages of using automation in industry (05marks)

(i)

(ii)

(iii).....

(iv)

(v)

16. (a) Define data communication (01 marks)

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(b) State any four requirements for setting up a computer network

(i)

(ii)

(iii)

(iv)

17. For questions (a) – (e), fill in the missing words from the list below

Formula bar Worksheet

Active cell Workbook

Cell Column

- (a) The is the intersection of a column and row
- (b) The content of a current cell is also displayed in the
- (c) The Is one with a thicker boundary and is the insertion point in spreadsheet.
- (d) The cell address of the current cell is displayed in the
- (e) A spreadsheet file is referred to as

18. (a) Give three disadvantages of electronic communication. (03marks)

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

(b) Name any two manual communication method

- (i)
- (ii)

19. (a) Give two situations under which electronic presentation would be used (02marks)

- (i)
- (ii)

(b) State **three** advantages of using electronic presentation over the traditional chalk and talk.

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

20. (a) Differentiate between intranet and extranet. (02 marks)

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(b) Define a Local Area Network (LAN) (02 marks)

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(c) Suggest an area network which is restricted to connecting users in a city. (01mark)

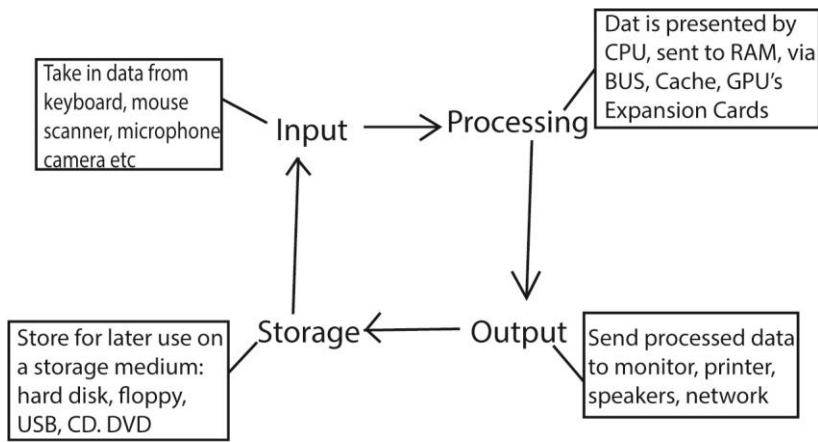
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Suggested answers

1. (a) List three major specification one would consider when buying a laptop computer (03marks)

- (i) Processor speed
- (ii) Screen size and resolution.
- (iii) Storage Space
- (iv) Size of ram
- (v) Presence of graphic card

(b) Illustrate the information processing cycle (03marks)



2. (a) Distinguish between cold booting and warm booting (02 marks)

Cold booting is the process of starting up a computer that is switched off.

Warm booting is the process of restarting a computer that is already on without completely turning it off.

(b) Give **three** circumstances under which a computer can be warm booted.

- (i) when computer is slow,
- (ii) when computer is unresponsive,
- (iii) when computer is unstable.
- (iv) for software updates

3. (a) What is information and Communication Technology (ICT)?

Information and communication technologies (ICT) is defined as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information.

(b) Outline any three measures that can be taken to prevent environmental degradation through the use of ICT. (03marks)

- (i) Reduces deforestation by saving on use of paper
- (ii) Reduces use of fossil fuel in transporting information
- (iii) reuse and recycle computer component
- (iv) Disseminate environmental education information

4. (a) Give two reasons why file management is important in computer system (02marks)

- (i) Eases finding and accessing a file
- (ii) Maintains **data integrity by preventing accidental deletion or alteration of files**
- (iii) Ensures data security.
- (iv) Ensure saving of related files in the same folder
- (v) Standardized processes of files

(b) List three operations which can be performed on a file (03 marks)

- Saving
- opening
- editing
- copying
- moving
- renaming
- deleting files.

5. (a) Explain the term troubleshooting as used in computers. (02marks)

Troubleshooting is a systematic process used to locate the cause of a fault in a computer system and correct the relevant hardware and software issues.

(b) State three ways in which one can troubleshoot a computer that has failed to start.

- Try a different power source.
- Check your monitor connection.
- Listen for beeps.
- Let the battery charge
- Start your PC in safe mode.
- Restore your computer to previous settings.
- Unplug USB devices.

6. (a) Define an input device (01 marks)

An input device is a piece of equipment that enters data to computer processing.

(b) Name two basic input device associated with common desktop computer

(i) keyboard

(ii) mouse

(c) Identify an input device for each of the following data: (02marks)

(i) sound: microphone

(ii) Images: camera, scanner

7 (a) Name three functions of operating system (02marks)

(i) manages files,

(ii) manages memory,

(iii) manages processes,

(iv) handles input and output,

(v) controls peripheral devices like disk drives and printers

(b) Name any two operating system software (02marks)

(i) Apple mac OS,

(ii) Microsoft Windows,

(iii) Google's Android OS,

(iv) Linux Operating System

(v) Apple iOS

8. Ali has a DVD full of data and would like to transfer the data to CDs. The capacity of the DVD is 4.7GB and each CD is 700MB. Calculate the number of CD's he needs to transfer all his dat. (05marks)

$$\text{Number of CD} = \frac{4.7 \times 1000}{700} \quad 6.7 \approx 7$$

9. (a) Define the term tailor-made software (01marks)

It is software that is developed specifically for some specific organization or other user.

(b) Outline any four qualities of good application software

- **Functionality:** It refers to the degree of performance of the software.
- **Reliability:** A set of attribute that Bear on the capability of software to.
- **Efficiency:** It refers to the ability of the software to use System.
- **Usability:** It refers to the extent to which the software can be used with.
- **Maintainability:** Refers to the ease with which the modifications can be made in a software system to extend its functionality, improvement, performance or correct errors. Maintainability covers Testability, Stability, Changeability, Analyzability.
- **Robustness:** It refers to the degree to which the software can keep on functioning in spite of being provided with invalid data.
- **Integrity:** It refers to the degree to which Unauthorized Access to the software data can be prevented.

10. (a) Write the following computer abbreviations in full. (02marks)

- (i) CPU is central processing unit
- (ii) ALU is Arithmetic-logic unit

(b) State the role of each of the following CPU components (03 marks)

- (i) BUS transfer data between components or devices connected to computer.
- (ii) Control unit manages a computer's operations
- (iii) Registers are small amounts of high-speed memory contained within the CPU. They are used by the processor to store small amounts of data that are needed during processing, such as: the address of the next instruction to be executed.

11. (a) Distinguish between utilities and application software (02marks)

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

Application software is software designed to handle specific tasks for users.

(b) Give three examples of utility programs. (03marks)

- (i) Antivirus software for virus protection.
- (ii) File management tools for managing files.
- (iii) Compression tools for reducing file size.
- (iv) Disk management tools for managing storage.
- (v) Debuggers for examination and modifying data

12. Explain the following as applied to internet

(i) Hotspot (02 marks)

Wireless hotspots are wireless access points, typically in public location, that provide internet access to mobile devices such as your laptop or smartphone when you are away from the office or your home.

(ii) Internet Service provider (01mark)

An ISP is a company that provides web access to consumers and businesses through various channels, such as cable, DSL, fiber, or wireless.

(iii) Search Engine (02marks)

A search engine is software that searches a database of information according to the user's query.

13. Give five symptoms of a computer infected by a virus (05 marks)

- Slowing down
- Unexpected pop-up windows
- Unwanted programs starting automatically
- Missing files and programs
- System crashing
- Being locked out of your computer
- Mass emails sent from your email account.
- Your security software has been disabled.
- Your battery drains quickly.

14. (a) Give two reasons to justify ownership of institutional website (02 marks)

- Enhances your brand image. When it comes to corporate digital presence, the company's image grows stronger as it dominates new channels.
- Serves as information bank about the institution
- Increases visibility and accessibility because information is available to globe 24/7 online
- Markets institution's good and services.
- Facilitates communication between the institution and its clients
- A well-designed website enhances the institution's credibility and professionalism, helping to build trust among stakeholders.
- It may act as resource centre by hosting a variety of resource such as research publication, online courses and digital libraries.
- Facilitates interaction between the institution and its clients through features like forum, contact us, comments.

(b) (i) What is a web browser? (01 mark)

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

(ii) Under what circumstances can someone use a Uniform Resource Locator (URL) in a web browser? (02marks)

A URL (Uniform Resource Locator) is an address of a website used to locate a resource on the internet.

15. Give any five advantages of using automation in industry. (05marks)

- (i) Higher production rates and increased productivity automated machines work 24/7
- (ii) Improved worker safety since dangerous work is assigned to robots
- (iii) better and consistently high quality production
- (iv) Reduced space required for production
- (v) Reduced human errors
- (vi) Reduced lead times: automation streamlines production processes thereby reducing the time it takes to bring product to market.
- (vii) Flexibility and adaptability: modern automation technologies can quickly adapt to new production schedules or products making it easy for businesses to respond to market changes
- (ix) reduced wastage of materials since automated systems are efficient

16. (a) Define data communication (01 marks)

Data communication, **the process of transferring data over a transmission medium between two or more devices, systems, or places.**

(b) State any four requirements for setting up a computer network

- **Computers** to be networked
- **Software** to enable connected computers to operate
- **Router:** Connects your network to the internet and manages traffic between devices.
- **Modem:** Connects to your ISP (Internet Service Provider) and provides internet access.
- **Switch:** Expands the number of devices you can connect in a wired network.
- **Access Point:** Extends the range of your wireless network.
- **Cables:** Ethernet cables (Cat5, Cat5e, or Cat6) for wired connections.
- **Network Interface Cards (NICs):** Required for each device to connect to the network.

17. For questions (a) – (e), fill in the missing words from the list below

Formula bar Worksheet

Active cell Workbook

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- (d) The cell address of the current cell is displayed in the **formula bar**
- (e) A spreadsheet file is referred to as **workbook**.

18. (a) Give three disadvantages of electronic communication. (03marks)

- Lacks non-verbal cues such as body language and facial expression that enhance understanding
- Information overload caused by constant influx of messages, emails and notifications.
- Risks to security and privacy concerns to cyber-attack vulnerability.
- Impersonal nature
- Technical issues such as lack of internet connection disrupts communication
- Prolonged use of electronic devices can lead to physical health problems such as headaches and poor postures.
- Distractions and interruptions: popup sounds associated to electronic communication can lead to frequent distractions and interruptions, affecting productivity and focus.

(b) Name any two manual communication methods

- (i) sign language
- (ii) touch
- (iii) Manual English Signed Systems

19. (a) Give two situations under which electronic presentation would be used (02marks)

- Business meeting
- Teaching
- Conferences and seminars
- Training sessions
- Sales pitches

(b) State **three** advantages of using electronic presentation over the traditional chalk and talk.

- **Flexibility in design:** Tools offer templates for different types of slides.

- **Use of multimedia resources:** Incorporate images, videos, and audio.
- **Easy editing and revision:** Quickly update content.
- **Interactive features:** Engage the audience through polls, games, and icebreakers.

20. (a) Differentiate between intranet and extranet. (02 marks)

An intranet is a **private network contained within** an enterprise that is used to securely share company information and computing resources among employees.

An Extranet is a **private network contained within** an enterprise shared by internal and selected, external parties, such as business partners, suppliers, key customers, etc.

(b) Define a Local Area Network (LAN) (02 marks)

A local area network (LAN) is a **collection of devices connected together in one physical location**, such as a building, office, or home.

(c) Suggest an area network which is restricted to connecting users in a city. (01mark)

Metropolitan area network (MAN) (city-wide network)

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Thanks

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