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UACE S850 Subsidiary Information and communication technology (ICT) Paper 1 2013

2 ½ hour

Answer all questions

1. The table below shows specification of two computers X and Y.

Computer Specifications	Computer X	Computer Y
Processor	Intel® 3.2GHz	Intel® 3208 MHz
RAM	1GB	2000MB
Hard disk	4600MB	50GB
Monitor size	19"	15"

(a) Which of the two computers would you recommend for your company to buy?
 (03marks)

.....

(b) State two reasons to defend your answer in (a)

(i)

.....

(ii)

.....

(c) Which is the least important computer specification given in the table? (01mark)

.....

(d) State one reason defending your answer in (c) (01mark)

.....

2. (a) Explain how computers can professionally be used by:

(i) Teachers (02mark)

.....

.....

(ii) Doctors (02 mark)

.....

.....

(b) State one health risk associated with continued usage of computers (01 mark)

.....
.....

3. (a) Explain the following terms in spreadsheet

(i) Value (02 marks)

.....
.....

(ii) Label (02 marks)

.....
.....

(b) Name a symbol used when writing functions in a spreadsheet (01marks)

.....

4. (a) A student had a file on her laptop and wanted to transfer it to a computer in a laboratory. Give three devices that she can use to transfer the file (03marks)

(i)

(ii)

(iii)

(b) Explain the following methods of transferring a file from one location to another. (02 marks)

(i) Drag (01mark)

.....
.....

(ii) copy (01 mark)

.....
.....

5. (a) Give three factors a company should consider before buying any storage devices.

(i)

(ii)

(iii)

(b) Teo's network access speed is six megabytes per second. How many kilobytes does Teo's network receive or send per second? (02 marks)

.....

6. (a) Give one use for each of the following computer devices (02 marks)

(i) Power supply unit (01mark)

.....
.....

(ii) System Case (01 mark)

.....
.....

(iii) CMOS battery (01 mark)

.....
.....

(b) Explain the following:

(i) Analog device (01 mark)

.....
.....

(ii) Digital device (01 mark)

.....
.....

7 (a) State three types of computer software (03marks)

(i)

(ii)

(iii)

(b) Differentiate between a software version and a release (02marks)

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

8. (a) State two internet tools that support web based research. (02marks)

(i)

(ii)

(b) Identity three things one would require in order to get connected to the internet (03 marks)

(i).....

(ii)

(iii)

9. Outline five factors which determine data transmission speeds over the internet (05marks)

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

10. (a) Give five factors an organization should consider before choosing a Local Area Network. (05marks)

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

11. (a) Write the initial procedure of booting a computer system (03marks)

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

(b) Give any two measures taken to ensure that computers in the laboratory are safe (03marks)

- (i)
- (ii)

12. (a) A computer file is made up of a file name and a file extension.

(i) What is the purpose of a file extension? (02 marks)

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

(ii) Write down the file extension for a word processing document. (01 mark)

.....

(b) Okello deleted his file accidentally. In which two ways can he recover his file (02 marks)

- (i)
- (ii)

13. (a) An Internet café plans to replace Cathode Ray Tube (CRT) monitors with Liquid Crystal Display (LCD) monitors. Why should the café replace CRTs with LCDs? (05 marks)

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.....
.....

14. Indicate True or False against each statement in the table below (05 marks)

		TRUE/FALSE
(a)	Window XP is a graphical user interface operating system	
(b)	Presentation software support multimedia	
(c)	Word processor have formula bars	
(d)	Backup is to combine the content of two or more files to produce one output file	
(e)	The Disk Operating System is menu driven	

15. Company A uses custom-made applications while company B uses off-shelf applications. Write down any five advantages company B has over company A.

- (i)
- (ii)
- (iii).....
- (iv)
- (v)

16. (a) Explain the term **software Piracy**. (02marks (05 marks)

.....

(b) Write down any three precautions taken to prevent **software piracy**. (03marks)

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

17. The table below shows part of a database. Use it to answer the questions that follow.

EMPLOYEE NO.	NAME	TEL. NO.	SALARY	NO. OF MONTHS	TOTAL PAY
E22008	Betty	0774267820	\$700,000	3	
E227011	Kintu	0701998142	\$400,000	4	

(a) Write down the data type entered in the following fields.

(i) TEL. No (01 mark)

(ii) SALARY..... (01 mark)

(b) Suggest a suitable primary key

.....
.....

(c) The formula entered in the design view to determine TOTAL PAY, which is SALARY and MONTH is (02marks)

.....

18. State any five characteristics of a modern computer (05marks)

(i)

(ii)

(iii)

(iv)

(v)

19. From the given terminologies used for internet and Networks below, choose the correct one to complete each of the statements that follow:

- A discussion group
- Instant messaging
- Video conferencing
- A chat room
- Online shopping
- Telephony

(a) The type of Internet communication that allows multiple user to exchange messages in real time is called(01mark)

- (b) The type of internet communication that enable individuals to post messages on a particular topic for others to read and respond is called(02marks)
- (c) The use of multimedia communication is called (02marks)

20. (a) Explain the following terms as used in electronic mail. (02 marks)

(i) Blind carbon copy (BCC)

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

(ii) Carbon copy (CC)

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

(b) State one requirement needed for one to send an email (01marks)

.....

Suggested answers

1. The table below shows specification of two computers X and Y.

Computer Specifications	Computer X	Computer Y
Processor	Intel® 3.2GHz	Intel® 3208 MHz
RAM	1GB	2000MB
Hard disk	4600MB	50GB
Monitor size	19"	15"

(a) Which of the two computers would you recommend for your company to buy?

(03marks)

Computer Y

(b) State two reasons to defend your answer in (a)

(i) has higher processor speed

(ii) Has bigger ram

(iii) has a bigger storage space

(c) Which is the least important computer specification given in the table? (01mark)

Monitor size

(d) State one reason defending your answer in (c) (01mark)

Just an output devices

2. (a) Explain how computers can professionally be used by:

(i) Teachers (02mark)

- to prepare notes
- to prepare presentations
- to show presentation
- teach ICT
- to search for information

(ii) Doctors (02 mark)

- To communicate to fellow doctor
- To search for drug and disease information
- To store patients health information

(b) State one health risk associated with continued usage of computers (01 mark)

- Muscle and joint pain
- Overuse injuries of the shoulder, arm, wrist, or hand
- Eye strain
- Backache

3. (a) Explain the following terms in spreadsheet

(i) Value (02 marks)

- Numbers entered into cells
- Result of formulas or functions
- Text in constant number, date or time formats

(ii) Label (02 marks)

Labels refer to text that is typed into the cells of a spreadsheet.

(b) Name a symbol used when writing functions in a spreadsheet (01marks)

Equal sign (=)

4. (a) A student had a file on her laptop and wanted to transfer it to a computer in a laboratory.

Give three devices that she can use to transfer the file (03marks)

- USB flash drive/external hard drive
- Direct USB cable transfer
- cloud storage service
- Network transfer (LAN or WiFi)
- SATA cable connection

(b) Explain the following methods of transferring a file from one location to another. (02 marks)

(i) Drag (01mark)

"Drag" means placing the cursor over the icon of an item, pressing the left (or sometimes right) mouse button to highlight it, and while keeping the button depressed, moving the selected item across the screen and drop it to another location.

(ii) copy (01 mark)

Is duplicating a file and then paste a copy in another location

5. (a) Give three factors a company should consider before buying any storage devices.

- **Performance:** Look at transfer speed, access times, and cache space.
- **Capacity:** Choose a device with sufficient storage space.
- **Data Safety:** Consider security features.
- **Portability:** Some hard drives are more portable than others.
- **Price:** Compare costs.

(b) Teo's network access speed is six megabytes per second. How many kilobytes does Teo's network receive or send per second? (02 marks)

$6 \times 1000 = 6000$ kilobytes per second

6. (a) Give one use for each of the following computer devices (02 marks)

(i) Power supply unit (01mark)

- Provides power to computer components
- Convert AC to DC.

(ii) System Case (01 mark)

Offer mechanical protection and basis for arrangement computer internal components

(iii) CMOS battery (01 mark)

It provides power to the CMOS which **stores critical system information such as the date, time, and hardware configuration.**

(b) Explain the following:

(i) Analog device (01 mark)

It is an electronic device that continuously varies its output to represent a physical quantity such as sound and temperature.

(ii) Digital device (01 mark)

It is an electronic device that process information using discrete bits (1s and 0s) e.g. smartphone, smart TV etc.

7 (a) State three types of computer software (03marks)

- **Operating system** manages hardware, software resources, and provides common services for computer programs.
- **Drivers** allow operating system to communicate with hardware devices like printer, graphic cards, network adapters etc.
- **Utility software** performs maintenance tasks such as disk cleanup, antivirus scanning and file management to ensure the system runs smoothly.
- **Firmware** is low-level software embedded in hardware devices, providing control and communication between the devices and other system components.
- **Boot loaders** are responsible for loading operating system into computer's memory when the system is powered on
- **Language processors/translators** translate high-level programming languages into machine codes that the computer can execute.
- **Resource allocation** is system software that allocate resources like CPU time, memory space and input/output devices to various programs and users
- **Security and Access** control ensures that unauthorized user do not access the system and that data is protected from corruption and loss.
- **Communication Software:** Communication software allows us to transfer data and programs from one computer system to another.

(b) Differentiate between a software version and a release (02marks)

A **software version** is software distributed but differs from other/earlier forms of similar software in some rfeatures and identified by a unique set of numbers and letters.

A **software release** is the distribution of the final version or the newest version of a software application.

8. (a) State two internet tools that support web based research. (02marks)

- Todoist:
- EndNote:
- EduGeeksClub
- Zotero
- RefWorks

(b) Identity three things one would require in order to get connected to the internet (03 marks)

- **Device:** A computer, smartphone, tablet, or any internet-capable device.
- **Internet Service Provider (ISP):** A company that provides internet access.
- **Modem:** This device connects to your ISP and brings the internet into your home.
- **Router:** If you want to connect multiple devices or use Wi-Fi, you'll need a router. Some modems come with built-in routers, known as gateways.
- **Connection Type:** Depending on your ISP, you might use DSL, cable, fiber, satellite or cellular data
- **Cables and Power Supply:** Ethernet cables to connect your modem and router, and power cables for both devices.

9. Outline five factors which determine data transmission speeds over the internet (05marks)

- Network congestion
- Network latency
- Bandwidth
- Type of connection i.e. using cables or wireless
- Effectiveness of hardware and software resources
- Load balancing

10. (a) Give five factors an organization should consider before choosing a Local Area Network. (05marks)

- geographic and physical location
- bandwidth /the amount of information can handle at a given time
- network security
- scalability: a network that accommodate more users, business applications, new location, etc. is preferred
- IT maintenance costs
- Initial costs.

11. (a) Write the initial procedure of booting a computer system (03marks)

- Switch on computer power button.

- Wait for the operating system to load.
- Login to your operating system.

(b) Give any two measures taken to ensure that computers in the laboratory are safe (02marks)

- Minimize rodents from computer room by not eating or drinking from within
- Keep an authorized persons out of the laboratory
- Lock the laboratory in the absence of a laboratory supervisor
- Employ a security guard
- Use antivirus software
- Passwords to computer files
- Computer laboratories should be clean and organized to avoid accident

12. (a) A computer file is made up of a file name and a file extension.

(i) What is the purpose of a file extension? (02 marks)

- It identifies the type of file e.g. .docx is a document type of Microsoft word
- Helps the operating system to open/edit the file with the correct software thus preventing errors
- Helps the user to identify a potentially dangerous files such as executable files(.exe) which may contain malware

(ii) Write down the file extension for a word processing document. (01 mark)

.docx

(b) Okello deleted his file accidentally. In which two ways can he recover his file (02 marks)

- Check and restore the file from Recycle Bin
- Use a data recovery software
- Hire a data recovery service
- Restart word to open auto recover files

13. (a) An Internet café plans to replace Cathode Ray Tube (CRT) monitors with Liquid Crystal Display (LCD) monitors. Why should the café replace CRTs with LCDs? (05 marks)

- **Space:** LCD monitors take up much less space than CRT monitors.
- **Power Consumption:** LCD monitors consume less power.
- **Brightness:** LCD monitors output a much brighter image than CRT monitors.
- **Design:** LCDs are thin, compact, and lightweight.

- **Color Quality:** The quality of color displayed on an LCD screen is better than on CRT screens.

14. Indicate True or False against each statement in the table below (05 marks)

		TRUE/FALSE
(a)	Window XP is a graphical user interface operating system	TRUE
(b)	Presentation software support multimedia	TRUE
(c)	Word processor have formula bars	FALSE
(d)	Backup is to combine the content of two or more files to produce one output file	FALSE
(e)	The Disk Operating System is menu driven	FALSE

15. Company A uses custom-made applications while company B uses off-shelf applications. Write down any five advantages company B has over company A.

- Lower initial cost and cost-effectiveness
- Quicker and easier to implement and use
- Proven reliability and quality
- Regular updates and support
- Available training resources and community support
- Owned by someone else, so they foot the development/upgrade costs

16. (a) Explain the term **software Piracy**. (02marks)

Software piracy is the **unauthorized use, copying or distribution of copyrighted software**

(b) Write down any three precautions taken to prevent **software piracy**. (03marks)

- Comply with Piracy Regulations.
- Utilize End-user License Agreement.
- Utilize General Public License.
- Use a License Key Management System.
- Introduce a Subscription Model.
- Release an Improved Version of the Pirated Software.

17. The table below shows part of a database. Use it to answer the questions that follow.

EMPLOYEE NO.	NAME	TEL. NO.	SALARY	NO. OF MONTHS	TOTAL PAY
E227008	Betty	0774267820	\$700,000	3	
E227011	Kintu	0701998142	\$400,000	4	

(a) Write down the data type entered in the following fields.

(i) TEL. No -label (01 mark)

(ii) SALARY- value (01 mark)

(b) Suggest a suitable primary key

E227xxx

(c) The formula entered in the design view to determine TOTAL PAY, which is SALARY and MONTH is (02marks)

=(SALARY*NO. OF MONTH)

18. State any five characteristics of a modern computer (05marks)

- **Diligence:** that is Computers perform repetitive task without getting tired and work long hours without making mistakes
- **Versatility:** computers perform many tasks with the same accuracy and efficiency
- **Accuracy:** computers perform tasks with high degrees of exactness
- **Flexibility:** computers are flexible that they can perform a variety of programmed tasks
- **Time saving :** high computer speed enables computers to handle tasks quickly even those with complicated procedures
- **Effectiveness:** computers process huge volumes of data effectively
- **Space saving:** computers store a large amount of data saving shelf space
- **Low supervision cost:** computers perform automatic task that require minimal supervision
- **Simplifies work;** Computers simplify problem solving using programs designed for the purpose
- **Good for information flow;** Computers improve information flow in an organization
- **Entertainment;** Use of computers has ushered in the era of games and music playing
- **Multitasking:** computers can do many tasks at ago.

19. From the given terminologies used for internet and Networks below, choose the correct one to complete each of the statements that follow:

- A discussion group
- Instant messaging
- Video conferencing
- A chat room
- Online shopping
- Telephony

- (a) The type of Internet communication that allows multiple user to exchange messages in real time is called **video Conferencing**(01mark)
- (b) The type of internet communication that enable individuals to post messages on a particular topic for others to read and respond is called **Instant massaging** (02marks)
- (c) The use of multimedia communication is called **Chart room** (02marks)

20. (a) Explain the following terms as used in electronic mail. (02 marks)

(i) Blind carbon copy (BCC)

BCC is a way of sending copies of an email to other people where the recipient not informed of the addresses of other recipients

(ii) Carbon copy (CC)

CC is a way of sending copies of an email to other people where the recipient is informed to addresses of other recipients

(b) State one requirement needed for one to send an email (01marks)

- Computer/smart pone
- Internet connection
- Email address of the receiver

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Thanks

Dr. Bbosa Science