

1. The schools' debate club keeps a file of members on a computer system. Part of the file is shown in the following diagram.

ADMIN CODE	SURNAME	INITIAL	SEX	PHONE NO
MM002	Kasoma	K	M	0782564589
MM024	Namuli	NM	F	0771458275
MM089	Namusisi	MN	F	0794582759
MM045	Apollo	A	M	0714568927
MM115	Kivumbi	KR	M	0754685972
MM156	Ataho	AA	M	0774859223
MM145	Kabanda	KK	M	0745558484
M122	Matama	MM	F	0711252511

- (a) How many fields are there in table above?

(1 Mark)

5 fields

(Any 1x1=2marks)

- (b) State the data type that should be used for the Admin code data

(1 Mark)

• Text

(Any 1x1=1 mark)

- (c) Outline one reason why the data in the sex field has been coded. (2 Marks)

This is because it has two options Male and female. (Any 2x1=2 marks)

Because data is to be used more frequently

- (d) Mention one data type used in Microsoft access.

(1 Marks)

Date and time

(Any 1x1=1 mark)

Text

Number

Memo

Auto number

Yes/no

Hyperlink

currency

2.(a) What is meant by word processing?

[2marks]

Word processing is the act of creating, editing and printing out of textual/graphical information using a word processor.

(Any 2x1=2 marks)

(b) By use of an arrow on the print dialog box below, Name:

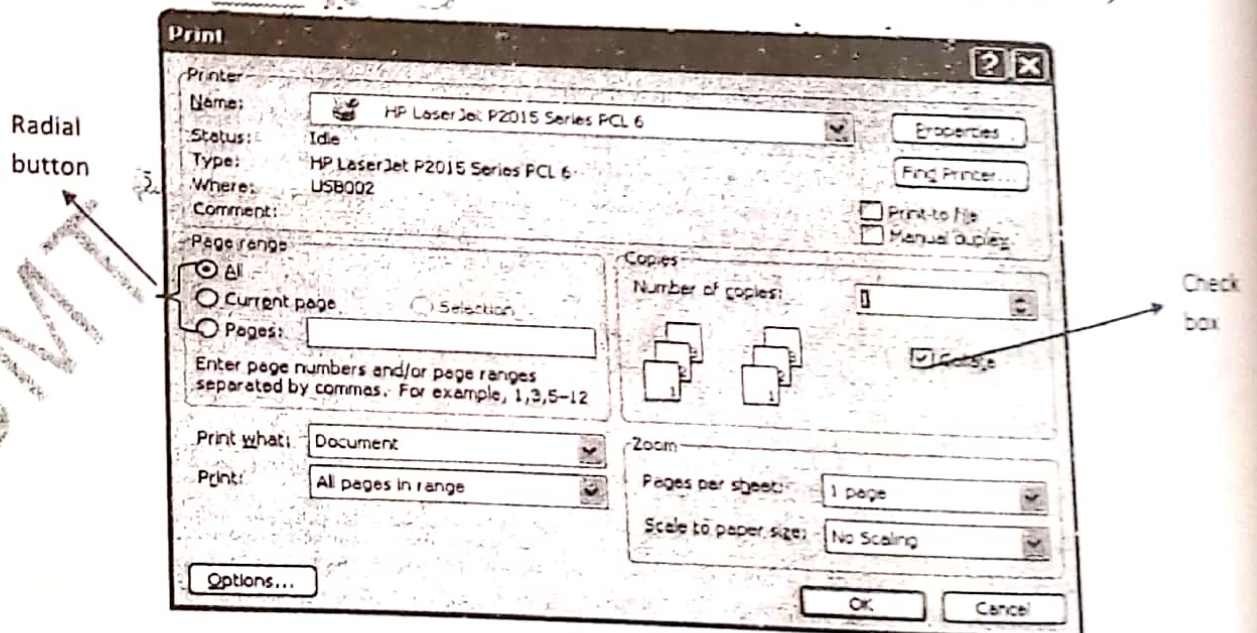
(i) A radial button

[1mark]

(ii) A check box

[1mark]

(Any 2x1=2 marks)



- (c) What is a print pre-view? [1mark]

Print preview is a feature that allows a user to view/display/show what a printed version of the document would look like on the screen before printing a hard copy.

(Any 1x1=1 mark)

3. (a) Illustrate two elements of green computing with the help of examples

(2 Marks)

- *Using energy efficient hardware like notebook computers, displays, servers etc*
- *Better use of resources, such as reduced paper consumption and lower energy.*
- *Reusable hard disks provide a danger to data security.*
- *When you outsource services to the cloud, though, it means that your data lives in the cloud, and that is a big security concern*
- *Recycling of ICT targets*
- *Selling of spare parts*

(Any 2x1=2 marks)

- (b) List three ways of implementing green computing (3 Marks)

The qualifier must be while stating a point

- *Must*
- *through*

➤ *Conserve energy. Turn off your computer when you know you won't use it for an extended period of time. Turn on power management features during shorter periods of inactivity.*

➤ *Reduce Paper Consumption. There are many easy, obvious ways to reduce paper consumption: e-mail, electronic archiving, use the "track changes" feature in electronic documents*

➤ *Make environmentally sound purchase decisions. Purchase Electronic Product Environmental Assessment Tool registered products. EPEAT is a procurement tool promoted by the nonprofit Green Electronics Council to:*

➤ *•Help institutional purchasers evaluate, compare and select desktop computers, notebooks and monitors based on environmental attributes*

➤ *Recycle. Discard used or unwanted electronic equipment in a convenient and environmentally responsible manner. Computers have toxic metals and pollutants that can emit harmful emissions into the environment.*

➤ *Develop a sustainable green computing plan*

(Any 3x1=3 marks)

4. a) Define the term computer system security

(1 mark)

❖ *it refers to maintaining/ safeguarding of the hardware, software and data from damage/unauthorized users (Any 1x1=1 mark)*

- Physical security

❖ *There is need to safeguard the computer equipment from hazards like water fire lightening, dust, and extreme temperatures by use air conditioners.*

- Internal security of the machine.

b) What are firewalls in computer systems?

(1 mark)

A firewall is a system designed to prevent unauthorized access to or from a private network.

(Any 1x1=1 mark)

c) State *three* threats faced by organizations as a result of computer networking.

(3 marks)

- ❖ *Purchasing the network cabling and file servers can be expensive.*
- ❖ *Managing a large network is complicated, requires training and a network manager usually needs to be employed.*
- ❖ *If the file server breaks down the files on the file server become inaccessible. Email might still work if it is on a separate server. The computers can still be used but are isolated.*
- ❖ *Viruses can spread to other computers throughout a computer network.*
- ❖ *There is a danger of hacking, particularly with wide area networks. Security procedures are needed to prevent such abuse, eg a firewall.* (Any 1x1=1 mark)

5 (a) Define the term systems administrator

(1 Mark)

➤ *An individual responsible for maintaining a multi-user computer system, including a local-area network (LAN). Typical duties include:*

- ✓ *Adding and configuring new workstations*
- ✓ *Setting up user accounts*
- ✓ *Installing system-wide software*
- ✓ *Performing procedures to prevent the spread of viruses*

✓ Allocating mass storage space

(Any 1x1=1 mark)

(b) State any four computer career and define those

(4 Marks)

(Any 4x1=4 marks)

List and explain

- Software Engineering
- Network Engineering
- System security
- Project Management
- Quality assurance and Testing
- System administration
- Web site development
- Database administration
- Teaching ICT / computer studies
- Computer repairing and maintenance
- Graphic designing
- IT consultancy and many others

6.(a) Define the term Computer Communication.

(1 Mark)

- Data communications (DC) is the process of using computing and communication technologies to transfer data from one computing device to another.

(Any 1x1=1 mark)

(b) State any two categories of Computer networks.

(2 marks)

- Local area Network
- Wide area Network
- Metropolitan Network

(Any 2x1=2 marks)

(c) State the difference between simplex and a full duplex channel

(2 Marks)

- *Simplex refers to a communication in which data signals move in one direction at a time eg key board where as Full duplex is a communication channel in which data signals move in both directions simultaneously eg Phone.*
(Any 1x2=2 marks)

7. (a) Define unbounded media (1 Marks)

- *It's a type of media that is used to transmit data from one point to another without using physical connections.*
(Any 1x1=1 mark)

(b) Outline two advantages and disadvantages of fibre optic cabling (2 Marks)

Advantages

- *It's immune to electromagnetic interference and eavesdropping.*
- *It is fast and supports high bandwidth.*
- *Large distance can be covered because it has low attenuation.*
- *Can be used in hazards places (highly flammable) because they do not generate electrical signals.*
- *It's smaller and lighter than copper cable hence ideal for space limited situations.*
(Any 2x1=2 marks)

Disadvantages

- *Connectivity devices and media are very expensive.*
- *Installation is difficult because the cable must be carefully handled.*
- *It's relatively complex to configure.*
- *A broken cable is difficult and expensive to repair*
(Any 2x1=2 marks)

8. Explain why your school should have an internet connection

(5 Marks)

(Any 5x1=5 marks)

(Explain)

- *Save money, effort, and time. If your school has its own effective website, you will have an instant online brochure. The administrators of the school would not need to worry about print or TV ads to promote the school*

- *Be available all the time.* Through an effective school website, parents, alumni, and other visitors could access salient information about the school from anywhere, anytime, even beyond office hours, as long as there is an internet connection.
- *Provide motivation/ reward for students.* Posting the students' excellent work on the website is a great way to praise them and their works.
- *Keep parents well-informed.* Everything parents need to know is available on an effective website – activities, recognitions, announcements, etc.
- *Extends learning.* An effective website can also be used as a teaching tool that extends beyond the walls of the classroom. Teachers can post useful links and other teaching materials. Teachers can also utilize forums or message boards to extend class discussions.
- *Develops communication/ writing skills.* The content written by the students sharpens writing skills. The interaction the website provides develops communication skills.
- *Provide educational support.* Students can get tutorial lessons through podcast and other useful materials.
- *Facilitate enrollment.* The website can be the place to post the schedule and process of enrollment. It can also be used to house the enrolment procedure itself, just like the website of most universities.
- *Provide immediate feedback.* The morale of the teachers, students, and school administrators can be raised through the immediate feedback/ comments visitors could leave.
- *Serve as a database.* An effective website can also serve as the storage of backup files about the school, the teachers, and the students.

9.a) Briefly explain the following terms as used in internet based communications

(3 marks)

(Explain)

(i) Internet

- ❖ *The internet is a computer network made up of thousands of networks worldwide. Mostly referred to as the "information super highway"*
- ❖ *Refers to global interconnections of computers on networks* (Any 1x1=1 mark)

(ii) World Wide Web.

- ❖ *Abbreviated as the web or www is a system of internet servers that supports hypertext to access several internet protocols on a single interface.*

OR

- ❖ *It's a system of interrelated hypertext linked documents accessed via internet*

(Any 1x1=1 mark)

(iii) Web browser

- ❖ *A browser is a software tool that greatly simplifies the process of user visiting different locations on the internet.*

OR

- ❖ *Refers software/program that allow a user to navigate/access resources and access a web page*

(Any 1x1=1 mark)

b) State any two examples of web browsers

(2 marks)

- ❖ *Internet explorer*
- ❖ *Google chrome*
- ❖ *Mozilla Firefox*
- ❖ *Opera mini*
- ❖ *Chrome*
- ❖ *Netscape e.t.c*

(Any 2x1=2 marks)

10. (a) What do you understand by the following terms in relation to computer software

(2 Marks)

(i) Shareware software

- *Shareware is software that you can use on a trial basis before paying for it. Shareware often has limited functionality or may only be used for a limited time before requiring payment and registration.*

(Any 1x1=1mark)

(ii) Customized package

- *Is software that is specially developed for some specific organization or other user.*

(Any 1x1=1mark)

(b) State three examples of system software

(3 Marks)

(Any 3x1=3marks)

- *Operating system*
- *Programming languages*
- *Utility programs*

11. (a). Mention two examples of operating system.

(02 marks)

(Any 2x1=2 marks)

- Ms. DOS
- Windows 3.X 1
- Windows 95
- Windows NT Workstation
- Windows 98
- Windows 2000 Professional
- Windows ME
- Windows XP Home
- Windows XP Professional
- Mac OS
- OS/2 Wrap
- NetWare
- Windows NT Server
- Windows 2000 Server
- Windows.NET Server
- OS/2 Wrap Server for E-Business
- UNIX
- Linux
- Solaris
- Windows CE Embedded
- Palm OS Embedded
- Pocket PC 2002

Other examples see: http://en.wikipedia.org/wiki/List_of_operating_systems

(b). List any two functions of utility programs.

(02 marks)

(Any 2x1=2 marks)

- Scans for computer viruses and remove them.
- Can make a copy of all information stored on a disk, and restore either the entire disk
- Output a smaller file when provided with a stream or file.
- scans the content of a hard disk to find files or areas that are
- Finds files that are unnecessary to computer and can decide to delete.
- Transparently compress/uncompress the contents of a disk, increasing the capacity of the disk.
- Increase efficiency by moving data to one side of the disk.
- Divides an individual drive into multiple logical drives
- To get the size for each folder/ sub folders & files in folder or drive. Showing the distribution of the used space.
- Ensures that data is stored and files arranged in order of ascending. It also helps the computer to re-arrange data files.
- Output a stream or a single file when provided with a directory or a set of files. Archive utilities, unlike archive suites, usually do not include compression or encryption capabilities.

- Provide a convenient method of performing routine data management tasks, such as deleting, renaming, cataloguing, un cataloguing, moving, copying, merging etc.
- Encrypt and decrypt streams and files.
- Directly modify the text or data of a file.
- Check for memory failures.
- Analyzes the computer's network connectivity, configure network settings, check data transfer or log events.
- Clean and optimize the Windows registry by removing old registry keys that are no longer in use.
- Were desired to prevent phosphor burn-in on CRT and plasma computer monitors. Modern screensavers are used primarily for entertainment or security.
- For monitoring resources and performance in a computer system.
- Provide detailed information about the software installed and hardware attached to the computer.
- For organizing files in any choose order
- Merges or combines different files in one.
- Compiles technical information about a computer's hardware and certain system software programs and then prepares a report outlining any identified problems.
- Helps the computer to find out the error and fixes it.
- Enables the user to get back all the data that might have been deleted or lost by virus from a computer.K2
- It enables the user to get back to the last best known configuration settings of a computer.
- It enables the user to remove an application program and its associated attributes from the system.
- Spooling print jobs
- Helps in booting of computer.

(c). Define the term firmware.

(01 mark)

(Any 1x1= 1mark)

❖ A computer program placed in a computer at a time of its manufacture.

11. (a) Operating systems are important aspects of a computer and in their absence a computer can not function. Define this important aspect

(1 Marks)

(Any 2x1= 2marks)

❖ This refers to a set of system programs that allow the computer to manage its own operations (responsible for managing resources of a computer enabling them to be utilized efficiently).

(b) Outline any four functions of operating systems

(4 Marks)

(Any 4x1=4 Marks)

(Explain)

- ❖ It ties all the hardware components of your computer such as the keyboard, monitor, disk drives and printers together as a functioning system and controls their interaction and operation.
- ❖ It manages and directs the computer in running various application programs.
- ❖ It permits users to create files.
- ❖ It creates a link between the user and the computer hardware through a graphical interface or command line interface.
- ❖ It serves as a base software or platform on which a variety of programs can operate.
- ❖ It also allows the user to work with several documents using different programs in their own windows all at the same time.
- ❖ It provides valuable tools for data management. Such as storage in files and folders, data back up, recovery and deletion.
- ❖ Error handling

13 (a) Define a Keyboard

(2 Marks)

(Any 2x1=2 Marks)

- ❖ A keyboard is the set of typewriter-like keys that enables you to enter data into a computer.

(b) Mention any three functions of a Keyboard

(3 Marks)

(Any 3x1=3marks)

- ❖ It's used to input data into a computer, its keys allow the user to type data in form of text or numbers.
- ❖ Can be used to command the computer to perform an operation using the keyboard shortcuts, such as ctrl + s for saving data/information etc.
- ❖ It is a major connector or interface between the computer and the user without which the user commands will not be put in a language the computer understands.

14(a) Differentiate between a serial port and parallel port

(2 Marks)

(Any 1x2=2 marks)

- Serial ports are types of ports where data is transferred one bit at a time while as parallel ports transfer several bits at a time
- Parallel ports also called LPT 1 (line print terminal) transmit for short distance while serial port also called COM (Communication port) 1, 2...transmit for fairly long distance, up to 15M

- *Parallel port transfers data more faster than a serial port.*
- *A serial ports also called a male Connector, has 9 or 25 pins while as A parallel ports also called a female connector, it consists of 9 or 25 holes.*

(b) Give an example and define the following terms

(2 Marks)

(i) Optical storage media

(Any 1x1=1 mark)

- *Optical storage media is an optically readable media, where Data is recorded by making marks in a pattern that can be read back with the aid of light, usually a beam of laser light precisely focused on a spinning optical disc, e.g. CDs, DVDs etc*

(ii) Solid state storage media

(Any 1x1=1 mark)

- *Solid-state storage media is a storage device made from silicon microchips. Solid state storage media stores data electronically. Example Memory cards, Flash disks.*

(c) What is biometric devices

(1 Mark)

(Any 1x1=1 mark)

- *Are devices that capture human biological characteristics to interpret information*

15. Suggest one suitable input device for each of the following tasks.

- (iii) To enter instructions in the CLI
- *Keyboard*

(Any 1x1=1 mark)

- (iv) To move the pointer in a GUI
- *Mouse*

(Any 1x1=1 mark)

- (v) Inputting text/graphics from hard copies into electronic format

(Any 1x1=1 mark)

- *Optical Scanner*

- (vi) To read bar codes of products in supermarkets.
- ❖ *Bar code reader*

(Any 1x1=1 mark)

- (vii) To feed human voice into the computer
- *Voice Recognition Equipment*

(Any 1x1=1 mark)

16. (a) How can the following computer devices be used in a school

(3 Marks)

(i) Hard disk

- *It can be used to store students' records in the schools' (Any 1x1=1 mark)*

(ii) DVD drive

➤ *Its used for reading and writing information on store devices*
(Any 1x1=1 mark)

(iii) Keyboard

➤ *It's a data input devices.*

(b) Give two functions of a keyboard

(Any 1x1=1 mark)
(2 Marks)

(Any 2x1=2 mark)

❖ *Its used to in put data into a computer, its keys allow the user to type data inform of text o numbers*

❖ *Can be used to command the computer to perform an operation using the keyboard shortcuts, such as ctrl + s for saving data/information etc*

❖ *It is a major connector or interface between the computer and the user without which the user commands will not be put in a language the computer understands.*

17. The following is a file address on windows based computer. (5 Marks)

D:/Document and settings/User1/Desktop/Exams/Eot3.xls

(viii) File Name

➤ *Eot3*

(Any 1x1=1 mark)

(ix) File location

➤ *Desktop*

(Any 1x1=1 mark)

(x) User profile/User file

➤ *admin*

(Any 1x1=1 mark)

(xi) Drive Name

➤ *Drive D.*

(Any 1x1=1 mark)

(xii) System folder

➤ *Documents and settings*

(Any 1x1=1 mark)

18. (a) Define the following file management terms (5 Marks)

(i) File extension

(Any 1x1=1 mark)

It is a suffix on a file name usually separated by a dot. It is one of the file attributes.

A File extension refers to 2/3/4/5 characters after a period on a file path

(ii) System files

(Any 1x1=1 mark)

A system file in computing is a critical computer file without which a computer system may not operate correctly.

OR

These are program files which coordinate hardware without which operation in the computer may not function properly

(iii) Uninstaller

(Any 1x1=1 mark)

❖ *This is a utility that removes an application as well as any associated entries in the system files.*

(iv) File Viewer.

(Any 1x1=1 mark)

Is a utility that displays, view, retrieve and copies the content of the file. An operating system's file manager often includes a file viewer.

(v) Disk scanner.

(Any 1x1=1 mark)

❖ *This a utility that detects and corrects both physical and logical problems on a hard disk and searches and removes unwanted files.*

19. (a) What do you understand by the term Computer trouble shooting?

(2 marks)

(Any 2x1=2 marks)

➤ *Is the systematic logical search for the source of a problem available on a computer so that a system is made operational again .*

(b) Show three circumstances under which a computer user carries out warm booting.

(3 Marks)

(Any 3x1=3 marks)

- *When the computer hangs/freezes*
- *After installing a new software*
- *After uninstalling a software*
- *After installing a hardware component e.g HDD*
- *After uninstalling a hardware component*
- *After updating or upgrading software*
- *When changing to a different operating system*

20. (a) Mention the two types of Computer memory

(2 Marks)

(Any 2x1=2 marks)

- ✓ *RAM is the memory available for the operating system, programs and processes to use when the computer is running.*
- ✓ *ROM is the memory that comes with your computer that is pre-written to hold the instructions for booting-up the computer.*

(b) As a user of computers list any three limitations of computers today

(3 Marks)

(Any 3x1=3 marks)

- *Program correctness. After data correctness, the question of program correctness comes up. If the data entered is correct and a program written to process this data has mistakes, once again, the information obtained will be incorrect.*
- *Computers cannot think. Unlike the human brain, the computer cannot think but can effortlessly execute all instructions given to them any number of times without errors.*
- *Data correctness. In case the data enter into the computer is incorrect then the results will be incorrect*
- *Alternatives: Human beings know how to try out a new option when one alternative to do a job fails. Computers lack this ability.*
- *Experience: Computers cannot learn from experience.*
- *Computers depend on user's input*
- *Computers can't make decision*