

## SECTION A

- |      |       |       |
|------|-------|-------|
| 1. D | 8. A  | 15. C |
| 2. B | 9. C  | 16. B |
| 3. A | 10. B | 17. D |
| 4. B | 11. A | 18. D |
| 5. C | 12. B | 19. A |
| 6. C | 13. D | 20. A |
| 7. D | 14. C |       |

## SECTION B

### 21. (a) Definition of computer evolution

Computer evolution is the gradual development/improvement/modification/advancement/growth of computing devices/technology from simple to more complicated and advanced forms.

**NB: Deny marks for stages/generations.**

*02 marks*

### (b) The correct terms to complete the statements

- (i) Computer
- (ii) Data processing
- (iii) Data
- (iv) Information

*Each 4x1=4 marks*

### (c) How computers are used in the following sectors

#### (i) Health

- Disease diagnosis using computer based x-rays, ultrasound scan etc
- Carrying out computer based medical research over the internet
- For computerized accounting purposes and billing of patients
- Keeping records of patients in a computerized database.
- Computerized scheduling of medical staff on duty.
- Providing healthcare lessons to patients using digital notes
- Communication between medical staff and patients
- Computer assisted life savers
- Incubating machines for premature babies
- For carrying out complex operations on sensitive body organs

- For drug prescription
- Determination of DNA

*Any 2x1= 2marks*

(ii) **Security**

- For forensic computing as in gathering evidence from scenes of crime
- Used to monitor places using CCTV cameras
- Access control using biometrics devices
- Computer based recording keeping by security organs
- Communication using internet and mobile equipment in cases of security emergency
- Research on criminal cases using internet
- Computer guided fighter planes
- Monitoring of security situations by drones
- Weapon assembly by the military manufacturing firms
- Computer based alarm systems in homes and cars
- Detection and detonation of booms and dangerous items like landmines
- Tapping and tracking calls for security purposes
- Training and educating forces using simulated models
- Locating and launching missiles

*Any 2x1= 2marks*

22. (a) **Defining computer hardware**

Computer hardware refers to the physical or tangible parts of a computer.

*02 marks*

(b) Filling in the appropriate categories of hardware

Hardware device	Category
(i) Compact Disc	<b>Storage</b>
(ii) MODEM	<b>Communication</b>
(iii) Projector	<b>Output</b>
(iv) Barcode Reader	<b>Input</b>

*Each 1x4=4 marks*

(c) **Explaining the functions of components**

(i) **Power Supply Unit**

- Steps down voltage
- Converts A.C voltage to D.C voltage
- Splits or distributes the voltage in different values as required by the components.

*Any 1x2= 2marks*

(ii) **ROM Chip**

- Permanently Store/hold manufacturers system instructions/information
- Used to hold instructions necessary for the booting of the computer.

*Any 1x2= 2marks*

23. (a) (i) **What a wild card is in database management system**

A **wild card** is a special character that can/used/combined/ stand for either a single character or a string of text in a query criteria or while searching for information.

That can be used to return/filter/generate results from a given query.

*02 marks*

(ii) **Importance of a wildcard in a query criterion**

- Useful when one wants the query to look for a given range of different possible values.
- Useful when one is not certain of what one is looking for but can give the query some clues to work with.

*Any 1x2= 2marks*

(iii) Naming examples of frequently used wildcards

- Asterisk (\*)
- Question (?)
- Percentage (%)
- Underscore ( \_ )
- Exclamation mark !
- Square brackets []

*Any 1x1= 1mark*

(b) (i) **Characteristics of label in a spreadsheet cell**

- Labels are left aligned by default
- Labels are not subject to basic arithmetic operations/not used for basics calculations
- Labels go into quotations whenever in logical functions
- Labels are majorly text data

*Any 1x2= 2marks*

(ii) **Outlining uses of electronic spreadsheets**

- Data sorting or arranging
- Data filtering

- Logical operations/functions
- Statistical operations/data analysis
- Financial and accounting operations
- Graphical representations/charting
- Data capture, import and export
- Editing and formatting of data

*Any 1x3= 3marks*

24. (a) (i) **Ways of preventing access to information on the internet**

- Keyword blocking
- Site blocking
- Web rating systems
- Passwording/parent control
- Registration and subscription to logins into the site as a member
- Financial restrictions to access content
- By encryption
- Using anti-virus software to block data from certain sites
- Putting down the site
- Using firewalls to filter information in a private network

*Any 2x1= 2marks*

(ii) **Reasons for preventing access to information on the internet**

- Prevent online crimes like bullying, fraud etc
- Limit or prevent access to illicit materials e.g. pornography
- For moral and ethical uprightness
- Limit or prevent unsolicited messages from filtering through
- Prevent piracy (illegal copying and duplication of information without authorization)
- Limit plagiarism by putting information in a format that cannot be easily changed
- Commercial benefits to promote copyright and property right.
- Offers privacy/confidentiality
- Preventing data alteration

*Any 3x1= 3marks*

(b) (i) **Explaining the term data transmission media**

These are communication lines or channels or path through which data is transferred from device to another.

Or channels used in transferring data/information

**02marks**

**(ii) Listing examples of data transmission media**

- Infra red light
- Radio waves
- Micro waves
- Optical fiber cable
- Twisted pair cable
- Coaxial cable
- Or wireless/unguided/unbounded technology
- Cabled/guided/physical/tangible

**Any 3x1= 3marks**

25. **(a) Importance of features in word processing**

**(i) Footnote**

Helps in providing explanatory/ or clarifying notes comments about a concept or phrase used in a particular page of a document

**02marks**

**(ii) Toggle case**

It helps the user to hurriedly change or switch case of text to upper case or lower case and vice versa.

**02marks**

**(b) Distinction between cut and copy**

To cut is to move data or text or word from its original place to a new location/clipboard/buffer/

**While**

Copy is to create an extra or duplicate copy of the data or file.

**(For both sides correct) 02marks**

**(c) What presentation software is**

Is an application software/program used to create and display information or data in form of slides/slide show.

**02marks**

**(d) Outlining ways where presentation software may be used**

- Advertising/promotion of products

- Publishing web contents
- Presentation to large audience in seminars, workshops, conferences etc.
- Business presentations
- For teaching

*Any 1x2= 2marks*

26. (a) Explanation of programming concepts

(i) **Termination**

It indicates the end of a statement in a program code.

To end a line of code in a program

Indicate syntax error

*02marks*

(ii) **Variable declaration**

It tells the program the nature of data to store or retrieve.

It assigns a datatype to a variable in a program

Tells the compiler to correctly interpret each statement

*02marks*

(b) **Stating the use of a compiler to a programmer**

- Translate entire/whole/at once source code into machine code
- Error detection
- Convert program code into executable code

*Any 1x2= 2marks*

(c) **Explanation of the term device driver**

- Device drivers are software programs that enable the computer system to communicate or interact well with connected system components or peripherals.
- Computer program used to configure peripheral devices

*02marks*

(d) **Forms of interfaces that can be provided by the operating system to the computer user**

- Command line interface Or Command
- Menu driven interface Or Menu
- Graphical user interface Or Graphical

*Any 2x1= 2marks*

## **SECTION C**

**27. (a) Factors to consider when to choose a LAN model (Peer to Peer or Server based network)**

- Amount of network traffic(through put/band width//no of users.
- Organizational business
- Network budget/ availability of financial resources/cost of establishment.
- Level of administration support required
- Security levels required.
- Type of business or organization/size
- Ease of expansion in future
- Technical advice and support

*Any 5x2= 10marks*

**(b) Explanation of limitations to full internet use in Uganda**

- Cost implication for the initial outlay and maintenance are so threatening
- Government policy are not favorable e.g. taxes on IT equipment
- Ignorance due to high illiteracy rates
- Limited internet infrastructure/network coverage
- Poverty levels are high
- Fear for internet flaws e.g. pornography, network viruses and invasion of privacy
- Technological phobia
- Natural calamities/causes like lightening, fires, obstacles e.g hills
- Limited electric power supply
- Digital divide
- Nature and quality of some ISPs

*Any 5x2= 10marks*

**28. (a) Factors to consider before buying a computer**

- Needs/purpose of the school like different needs like curriculum, students, teachers etc

- Nature of the school e.g. a school for the deaf would need some hardware for the deaf.
- Ergonomics Safety provisions for the hardware e.g. comfort, safety, efficiency etc
- Cost of hardware components given the available school budget like installation, initial hardware cost and maintenance plus repair.
- After sale services provision such as free maintenance, warrants/guarantees for a period of time like one year.
- Source of hardware given the school foundation body and virtues
- School and government policy governing procurement laws and procedures.
- Data/information security provisions/concerns
- Computer hard disk
- RAM capacity
- Processor speed.
- Compatibility with the existing infrastructure in the school
- Provision for future growth and development (upgradeability)
- Past experience of working state of the nature of the computer.
- Reputation of the supplier
- Environmental concerns
- Technical advice and support
- Space for storage
- Consider the internal Network Interface Card
- Consider Resolution for high Graphics

*Any 5x2= 10marks*

**Mentioning 1 mark**

**Explanation 1 mark**

**(b) Ways of caring for computer hardware**

- Legislation/setting up working laws e.g. computer lab rules, ICT use policy, Code of conduct around computer use ranging from hardware movement, installation etc
- Burglar proofing
- Regular servicing and maintenance
- Servicing through professionals
- Avoiding dust and water into hardware by use of dust and water proof covers.
- Education/sensitizing users about basic hardware care/practices
- Electric power surge protectors/Proper electrical wiring/earthing /insulation.
- Bolting hardware on walls, tables and ground
- Engage alarms systems e.g. smoke, fire detectors
- Authentication systems like biometric, swipe cards, identity cards etc
- Hardware audits on regular basis
- Engraving/labeling hardware



- Security guards to take an eye on the installations
- Use of CCTV cameras for surveillance for feedback and evidence.
- Installation of lightening arrestors
- Keeping rooms under lock and key
- Avoid exposure to direct sunlight and extreme temperatures.
- Turning off the computer system when not in use.
- Proper turning on/off the computer system

*Any 5x2= 10marks*

**Mentioning 1 mark**

**Explanation 1 mark**

29. **Describing conditions that can lead to a computer system reboot**

- When an application or operating system freezes/hangs/ does not respond
- After installation of a new software (application or utility)
- When a peripheral or hardware component has failed to function/work
- During/After installation of operating system.
- After changing use control settings(CMOS/BIOS settings)
- When a user wants to clear a malicious infection like malware, spyware, viruses that are in memory
- After software update
- After uninstalling software
- After uninstalling hardware
- After installing a new hardware
- When the computer system slows down
- When there is suspected system tapping
- When a user wishes to switch from one operating system to another (Multiple O.S)
- After malware/virus scanning
- When a deadlock occurs
- Before Installing software
- When application software fails to work

*Any 5x4= 20 marks*

**Mentioning 1 mark**

**Explanation 3 marks**