

**OPENER EXAMINATION: TERM 1 2024**  
**COMPUTER STUDIES**  
**PAPER 1**  
**2 ½ HOURS**  
**MARKING SCHEME**

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**Section A(40 MARKS)**

**1. State the purpose of each of the following memories in a computer system**

- a) **RAM** – hold data that is urgently needed by the processor  
 Short term storage/ temporary storage for holding data instruction during processing
- A) **Hard disk** - used to store large volumes of data that is not urgently required by the processor. Also for back up of OS and data **(Correct description @ 1mk x 2 = 2mks)**

**2. List two files used in mail merging** Primary file/ main document

Secondary file/ data source

- Merged file / letter

**3. Explain the following terms as used in desktop publishing**

- a) **Embedded object**  
 a separate image/ graphic/ clip that is placed into a file e.g. movie clip pasted into DTP document would be considered as an embedded object
- b) **Auto flow:** Facility that allows text to flow automatically from one textbox to the next when the first text box is full
- c) **Zoom** - changing the magnification of publication page either to get a closer view (zoom in) or to see more of the page at a reduced size (zoom out). **(Correct description @ 1mk)each x 3 = 3 marks**

**4. Ways of identifying an illegal copy of an operating system**

- No license agreement as certificate of authenticity
- Prices that are extremely cheap
- No documentation manual
- When one connects to the internet for authentication, the report from the manufacturer indicates that the user may be a victim of software counterfeit.
- Frequent run time or occurrence of fatal error when using the machine. **(Each correct @1mk x 4 = 4mks)**

**5. Disadvantage of using magnetic tape**

- Wastage of space due to inter record gap (IRG)
- Tapes are susceptible (prone) to dust, stroke and magnetic fields which distort data on the tape
- Tapes have short life span (average of about 2 years)
- Data stored on a tape must be read/ accessed sequentially
- Data stored on magnetic tape ( and - disk) is not human readable e.g. if you wish to verify the accuracy of data stored on tape, a computer run would have to be made, in order to read the content on the tape and print it.

**(Any 3 @ 1mk x 3 = 3mks).**

6. (a)  $10100_2$                       (b)  $1100.001_2$                       (c)  $326.448_8$

**7. List three uses of DVDs.**

- entertainment – e.g. music, movie
- distribution of software
- archival storage

**8. How does an operating system manage computer memory.**

- organize the main memory into blocks of sizes called partitions
- assigns main memory storage partitions to data and instruction
- access to data is given using addressing the partition

**9. List four factors to be considered when purchasing an operating system.**

- hardware configuration
- basic design of the computer e.g. IBM, APPLE
- applications intended for the computer
- user friendliness or HCI

**10. List three ways by which you can provide a common link or relationship between the tables in a database software**

- a. one -to -one
- b. one – to – many
- c. many – to – many

**11. Describe the following terms as used in internet.**

- (a) Webpage - a page in a website **(1mark)**
- (b) Blog – a website which enables one to post or submit his or her personal details to a website; so that the details can be accessed from the website. **(1mark)**
- (c) Hyperlinks – text or graphic which opens another webpage or website when clicked **(1mark)**
- (d) Web portal - a website that function as a point of access to information on the World Wide Web

**12. Give four advantages of DTP over a word processor**

- has several design templates for various publications
- Is more powerful in manipulating graphics / texts
- Enables formatting and manipulation of individual text and frames separately
- Enable complex document format printing

**13. Differentiate between the following**

- (i) Kerning – fixing visual denseness of pairs of character in text
- Tracking– spacing between characters in text
- Margins – space around the text in the four edges of a document
- Column guides – non printable guides for column layout

**14. Give importance of having the following in computer laboratory. award 1 mark**

- i) Standard furniture in the laboratory
  - To avoid poor posture during machine use this may lead to strain, injury and limb fatigue

**15. ROM (Read Only Memory) it is used to store programmed instruction and data permanently or semi permanently.**

- Data and instruction stored in Rom are those required to remain uncharged for long period of time
- RAM (Random Access Memory) its content can be read directly regardless of the sequence in which it is stored.
- Its content is held temporarily and if content lost, is lost once the computer is turned off

**SECTION B (60MARKS)**

**16. Give the expected output from the flowchart when the value of Y is**

- a) i) = 1
- ii) = 3
- iii) = 1

**(Each correct @ 2mks x 3 = 6mks)**

**b) pseudocode**

- |        |                      |
|--------|----------------------|
| Start  | marks                |
| S=1    | start / stop – 1mk   |
| Read Y | initialization – 1mk |
| Repeat | input/ output – 1mk  |
| Y-Y/10 | looping – 1mk        |



iii) **9.625<sub>10</sub> to binary (3marks)**

9 = 1001

0.625 x 2 = 1.25      WRITE 1

0.25 x 2 = 0.5      WRITE 0

0.5 x 2 = 1.0      WRITE 1



9.625<sub>10</sub> = 1001.101<sub>2</sub>

**18. (a) List and describe four strategies for converting from an old system to a new system. (4mks)**

**Direct approach**

- user simply stops using old system and starts using the new one

**Parallel approach**

- old and new system are operated side by side until the new system has shown it is reliable

**Phased approach**

- parts of a new system are phased in separately either at different times or all at one in groups

**Pilot approach**

- entire system is tried out but only by some users

**(b) (i) Distinguish between private data and confidential data**

Private data – belongs to an individual and must be accessed through direct permission from the owner

Confidential data – held by government or organization about people but can be seen by authorized people only.

**(ii) What can be done to stop illegal access to a computer laboratory by unauthorized people (3mks)**

- a. fit strong metallic grills and locks to doors
- b. don't welcome strangers into the lab
- c. install alarms
- d. employ guards
- e. burglar proof

**(c) (i) List four areas that would be considered in the requirement specification. (4mks)**

– output specification

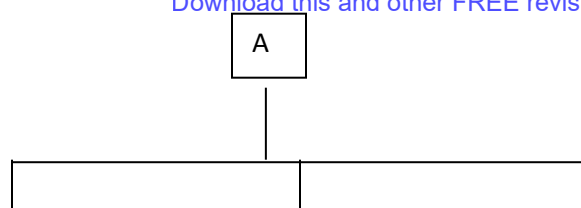
- in put specification
- file /data/tables
- hard ware/soft ware

**(ii) Name any two areas covered in feasibility report during system analysis and design.**

– cost benefit analyst

- a. schedule      -Users
- b. environment      -technology

**19. (a) Assuming that the secondary was working from the diskette, draw the corresponding tree structure (6mks)**



**1 mark each**

- (a) (b) (i) **The secretary wanted to create a folder to store a memo in Fraud folder. State the path for that folder. (2mks)**

A:/MEMO2/Fraud

- (ii) **Suggest how the secretary can ensure that the work in that diskette is not spoilt. (1mk)**

- do not drop the diskette down
  - don't put heavy objects on top
  - don't put near magnets
  - don't remove from drive when still being read/written

- (iii) **The content of the file is not viewed by any other person apart from her. (1mk)**

use of password

- (c) List any two devices under the control of the operating system.**

I/O c

CPU

memory

secondary storage

communication & ports

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**20. Describe the field values, records and file**

**(3 marks)**

- a) Field values are the values assigned to the attributes i.e. actual names classes,  
- The field value for each student constitutes a record  
- The collection of all student records is the file. **(correct description each @ 1mk x 3 = 3mks)**

**b) State the most appropriate data type for the fields**

Admission number - Text

Membership number - Text

**(Each correct @ 1mk x 2 = 2mks)**

**c) State most appropriate primary key for the list** Membership number

**(correct statement = 1mk)**

**d) State the purpose of each of the objects** i) Table – for storing data

Form – data entry, editing and viewing the records

Query – extracting data based on some criteria, performing calculations

Reports – creating summaries for data, performing calculations **(Each correct purpose @ 1mk x 4 = 4mks)**

**ii) Which objects cannot be used to store data in the list**

Forms

- Queries
- Reports

**(Any 3 correct @ 1mk x 3 = 3mks).**

**e) i) How many field values are in the list**

55 (correct = 1mk)

**ii) How many records are in the list**

11 (correct = 1mk)

