

COMPUTER 840/1

Paper 1

SECTION A (60 Marks)

1. In terms of processing power there is a class of computers between mainframe computers and microcomputers known as

- a) Supercomputer
- b) Mini computer
- c) Personal computer
- d) Workstation

B

2. Mechanical devices that make-up computer are called

- a) software
- b) hardware
- c) Netware
- d) groupware

B

3. Computer system which represents data as variable points along a continuous spectrum of values is

- a) analog system
- b) digital system
- c) mainframe system
- d) notebook system

A

4. Line printer, a voice synthesizer and computer terminal screen are classic examples of

- a) logic circuit devices
- b) analogue circuit devices
- c) AND gate devices
- d) output devices

There was an over sight on answers. The answer was supposed to be "Input and Output"

5. _____ is designed to solve a specific problem or to do a specific task.

- a) Application Software

A

b) System Software

c) Utility Software

d) Drive drivers.

6. Indention in computer word processing is used to
- a) make the text within the paragraph readable
 - b) change the paragraph color
 - c) Apply border around the paragraph.
 - d) Separate a paragraph from left or right margin.
7. Format command in word processing can't be used for setting
- a) line spacing
 - b) margins
 - c) tabs and indents
 - d) alignment
8. Key which is used to delete a characters in a computer document is
- a) backspace
 - b) delete
 - c) both A and B
 - d) end
9. Command which we use in PowerPoint to change font color, and background color in a presentation is
- a) design template/themes
 - b) color scheme
 - c) font color
 - d) object color
10. In order to upload an HTML file to a web server, you use
- a) HTTP
 - b) SMTP
 - c) SIP
 - d) FTP
11. Sending a file from personal computer's primary memory or disks to another computer is called
- a) uploading
 - b) downloading
 - c) Restoring
 - d) Copying
12. Which of the following translates and executes program code line by line rather than the whole program in one step?
- a) Interpreter
 - b) Compiler
 - c) Translator
 - d) Assembler

13. The DBMS acts as an interface between what two components of an enterprise-class database system?
- a) Database application and the database
 - b) Data and the database
 - c) The user and the database application
 - d) Database application and SQL
14. Which of the following is independent malicious program that need not any host program?
- a) Trap doors
 - b) Trojan horse
 - c) Virus
 - d) Worm
15. Which of the following should be your first choice to remove an application that you no longer need?
- a) Delete the program files
 - b) Use the uninstall program that came with the application
 - c) Use the Add or Remove Programs Applet
 - d) Use the Registry Editor to remove references to the application
16. Which would you do first when troubleshooting a faulty monitor?
- a) Check its connections to the computer and power source
 - b) Use a meter to check the CRT and internal circuitry for continuity
 - c) Power down the monitor, then turn it on again to see if that corrects the problem
 - d) Power down the computer, then turn it on again to see if that corrects the problem
17. Person who analyze information system and have practical experience of computers is classified as
- a) system analyst
 - b) system modifier
 - c) system updater
 - d) system promoter
18. What's the best way to protect your hard drive data?
- a) regular backups
 - b) periodically defrag it
 - c) run chkdsk at least once a week
 - d) run scandisk at least once a week
19. In a computer spreadsheet, SUM, AVERAGE, MIN and MAX are examples of
- a) calculations
 - b) formulas

- c) functions
- d) relative addressing

20. Translator for low level programming languages were termed as
- a) Assembler
 - b) Compiler
 - c) Linker
 - d) Loader



SECTION B (60 Marks)

21. (a) Define the term transmission media

(1 Mark)

- Data transmission media refers to materials or techniques used to carry data signals from one machine to another.
- Transmission media refers to physical and non physical pathway/channel/route through which data signals are transmitted from one device to another

Correct definition 1 mark

- (b) Differentiate between a Host computer and a workstation (2 Marks)

- A Host computer also known as a server is an application or device that performs service for connected clients as part of client server architecture while as A workstation is a personal computer that relies on a Host computer for all resources.

Correct distinction between the two terms 2marks

- (c) Explain any two most common types of networks in use today (2 Marks)

- Local-Area Networks (LANs): The computers are geographically close together (that is, in the same building).
- Wide-Area Networks (WANs): The computers are farther apart and are connected by telephone lines or radio waves.
- A Metropolitan Area Network (MAN) is a large computer network that usually spans a city or a large campus. A MAN covers a smaller geographic area than a WAN.

state and explain to be awarded marks (1*2=2mrks) else zero

- (d) Describe the term word processing

(1 Marks)

- Word processing refers to the creation, editing, formatting, storage, and output of both printed and online or electronic documents.

Correct definition 1 mark

(e) Define the following terms as used in word processing (4 Marks)

(i) Watermark

- A watermark refers to the word processing feature which inserts either ghosted text or picture behind the contents on a page.

Correct definition 1mark

(ii) Drop cap

- A drop cap is a word processing feature that creates a large letter at the beginning of a paragraph.

Correct definition 1mark

22. (a) Explain at least five areas where computers are applied. (5 Marks)

- In transport using of GPS to locate places
- In health to examine the internal body parts of patients
- In Education Computer Aided Learning and Computer Aided Assessment.
- In Business through E-business transacting on line.
- In e-banking-Today people can assess their accounts through mobile phones.
- In security and defense- drones are used for surveillance
- In agriculture – Tracking devices are used to track and serve the movement of animals
- In mass media – Live streaming and access to updated news
- In tourism sector – E-tourism has been possible due to the used online tourism sites.
- In entertainment- used theaters to display adverts of on going or being played movies, play music videos, audio to avoid boredom etc

Any five areas explained 5 marks @1mark

(b) Write short notes on the following

(3 Marks)

(i) Magnetic storage devices

- These are gadgets used to write or read/retrieve data from a magnetic media/medium. Magnetic storage uses different patterns of magnetization in a magnetisable material to store data and is a form of memory. The information is accessed using one or more read/write heads.

➤ Magnetic storage devices store data in the form of tiny magnetized dots. These dots are created, read and erased using magnetic fields created by very tiny electromagnets.

Correct definition 1mark

(ii) Optical storage devices

> Are storage devices or gadgets that can hold information as a pattern of dots that can be read using a laser beam of light normally with a circular shape e.g. CD, CDR, CDROM, CDRW, DVD, Blue-ray

Correct definition 1 mark

(iii) Solid state storage

> Is a type of non-volatile computer storage that stores and retrieves digital information using only electronic circuits, without any involvement of moving mechanical parts.

Correct definition 1 mark

(c) Distinguish between LaserJet printer and dot matrix printer (2 Marks)

- Laser printers are faster than dot matrix printers in printing
- Laser printers are quiet while dot matrices are noisy during printing.
- Laser printers use thermal technology while dot matrix use a striking mechanism during printing.
- Laser jets use Toner cartridges while dot matrix use ribbons
- A laser printer is expensive than a dot matrix as purchasing price.
- The print quality of a laser printer is better than that of a dot matrix printer.

Correct definition of the two terms or anyone correct difference 1 mark

23. (a) Software is one of the basic elements of a computer and without it you cannot operate a computer. With reference to that statement, mention and explain two types of computer software. (4 Marks)

- > System software refers to software that coordinates the activities and functions of hardware and software, and it controls the operations of computer hardware and provides an environment or platform for all the other types of software to work in. System software examples – Microsoft Windows XP, Mac OS, Linux, Windows Vista, Ubuntu, etc
- > Application Software refers to software which helps the user perform the tasks of his/her choice. Application software examples – MS Office, OpenOffice, Media Players, MS Access

*Correct definition of the two types of software @ 2 marks *2 = 4 marks*

(b) What is utility software? (1 Mark)

- > is system software designed to help to analyze, configure, optimize or maintain computer hardware and software to enhance the performance of a computer.

Correct definition 1 mark

(c) Distinguish between text input devices and pointing input devices (2 Marks)

- > Text input devices are devices that enter text data by typing e.g Keyboard WHILE
- Pointing input devices are devices used to enter data by pointing, selecting, opening, and controlling the movement of the pointer/cursor on the computer screen/Monitor.

24. **Correct definition 1mark**
(a) What is a ribbon in MS excel?

(1 Mark)

- **Excel Ribbon is a strip of buttons and icons. The buttons and icons in Excel Ribbon are grouped into different tabs based on the category of their functionalities.**
- **Excel Ribbon is a feature that consists of a series of tabs containing command buttons arranged into different groups.**

Correct definition 1mark

(b) With examples explain the concepts below as used in spreadsheet applications

(2 Marks @)

(i) Absolute cell referencing

- **An absolute cell referencing is where a cell reference in a spreadsheet application that remains constant even if the shape or size of the spreadsheet is changed, or the reference is copied or moved to another cell or sheet.**

- **Correct definition/explanation 1mark**

(ii) Relative cell referencing

- **Relative cell referencing is where basic cell references that adjust and change when copied or when using AutoFill.**

- **Correct definition/explanation 1mark**

(c) Who is a programmer?

- **A programmer is an individual that writes/creates/design/develop computer software or applications by giving the computer specific programming instructions.**

Correct definition 1mark

(d) What is a flow chart?

- **A flow chart is the diagrammatic representation of an algorithm.**
- **A flow chart is the diagrammatic representation of step by step instructions for solving a problem by a computer**

Correct definition 1mark

(e) List three advantages of high level programming languages over low level languages.

- **High level languages are programmer friendly. They are easy to write, debug and maintain while as low level languages are not use friendly.**
- **It is machine independent language while as low level languages are machine dependent.**
- **High level languages are Easy to learn while are not easy to learn as you have to memorize codes.**
- **High level languages are Less error prone, easy to find and debug errors while as low level languages it's not easy to identify errors.**

Clear distinction between the two terms @1mark*3= 3marks else 0

25. (a) Explain the term trouble shooting as used in system setup and configuration (1 Mark)

- **Troubleshooting is the process of diagnosing the source of a problem and fix problems with hardware, software, and many other products.**
- **Troubleshooting is the process of identifying and fixing or solving a problem with hardware or software.**
- **Troubleshooting is a form of problem solving, often applied to repair failed products or processes on a machine or a system**

Clear explanation of the term 1mark else 0

- (b) Describe how you would format a flash disk drive. (4 Marks)
- **Insert the flask disc into the computer /Click start button/select computer or my computer /Select the flash to format /Right click on the flash disk to be formatted/click format/from the dialogue box select format/click okay from the resultant dialogue box.**
- Correct step by step procedures @1mrk *4 =4Marks else 0
- (c) State the major difference between HTTP and HTTPS (1 Mark)

- **HTTP is a short abbreviation of Hypertext Transfer Protocol. HTTP is a protocol (set of rules and standards) which governs how any information can be transmitted on the World Wide Web. HTTP provides standard rules for web browsers & servers to communicate while HTTPS is a short abbreviation of Hyper Text Transfer Protocol Secure. It is highly advanced and secure version of HTTP.**
 - **Https allows the secure transactions by encrypting the entire communication with SSL. It is a combination of SSL/TLS protocol and HTTP. It provides encrypted and secure identification of a network server.**
- Clear distinction between the two terms 1mark else 0

- (d) Why is it not good to have a lot of graphics in a website (2 Marks)

- (i) **It takes long to load.**
 - (ii) **It takes up more memory in the computer**
 - (iii) **Some features fail to load.**
 - (iv) **It takes up much space on the web server**
- Any two given @1mark *2 =2marks
- (e) Define the term web browser giving an example (2 Marks)

- **A web browser is a software application for accessing information on the World Wide Web.e.g Google chrome, Mozilla firefox,internet explorer, Apple safari,**
- Any correct definition 1mark and any 1 example 1mark =2marks

26. (a) What is a database management system (1 Mark)

- **A database management system (DBMS) is a software package designed to define, manipulate, retrieve and manage data in a database.**
- **DBMS is a software used to create and manage data in a database**

Any correct definition 1 mark

(b) Distinguish between a record and field as used in databases (2 Marks)

- Field refers to column, or vertical categories of data while as a records refers to rows, or horizontal groupings of unique field data.

Any clear distinction between the two terms 2marks else 0

(c) List two reasons why your school should have a DBMS (2 Marks)

- Improved data sharing. The DBMS helps create an environment in which end users (teachers and students) have better access to more and better-managed data.
- Improved data security. Ensuring of user rights at every level as teachers are given user name and passwords to only access data they are attached to.
- Improved data access. The DBMS makes it possible to produce quick answers to ad hoc queries. Example looking for parents contact in the database when the student is sick it's easy to access the records
- Improved decision making. Better-managed data make it possible to generate better-quality information, on which better decisions are based. For example students' termly reports.
- To reduce redundancy

Any two reasons given $2 \times 1 \text{ mark} = 2 \text{ marks}$

(d) Give any three technological characteristics of third generation computers (3 Marks)

- Used for both scientific and commercial application.
- the used integrated circuits.
- More powerful than second generation. Capable of performing about 1 million instruction per second.
- Smaller than second generation so require small space.
- They consumed less power and dissipated less heat than second generation computer but still required proper air-conditioned.
- Less hardware failure than second generation so require lower maintenance cost.
- They had faster and larger primary and magnetic disk packs for data storage.
- Did not require manual assembly of individual components into electronic circuits resulting in reduced human labour and cost involved at assembly stage so commercial production of these system was easier and cheaper highly sophisticated technology and expensive setup was required for manufacturing of IC chips.
- Standard high level programming languages allowed programs written for one computer to be easily ported to and executed on another computer.
- Timesharing Operating system comes in exist.
- Unbundling of software from hardware gave users of the systems an opportunity to invest only in software of their need and value.
- Minicomputers of third generation made computers affordable even by smaller companies.

Any three characteristics 3*1mark= 3marks

(e) Briefly describe a slide master feature in presentation software (2 marks)

- Refers to the feature in presentation that allows you to preset layouts, colors and fonts for all slides in the presentation at once.
- It's a feature in presentation software contains the fonts, images, and background that appears throughout a presentation.
- Is a feature in presentation software that allows a user to apply a uniform appearance.

Any correct description of the term 2marks

SECTION C (20 Marks)

- Answer only one question in this section

27. (a) What is installation? (02 Marks)

- Installation refers the act of making the program ready for execution/running.
- Installation refers to the setup of software in a computer or connecting or adding a hardware device on the computer for execution.

Correct definition 2marks

(b) Describe how you would uninstall Microsoft office from your computer (06 Marks)

- Click Start button/Control panel/Programs and features/select program to uninstall/click uninstall/the system will prompt you to confirm to uninstall.

Correct steps followed @1mark*6=6marks

(c) Distinguish between upgrading and updating (02 Marks)

- An upgrade is the act of replacing your software or hardware with a newer, and often more superior, version or similar product while as Update refers to applying new patches and changes to the existing file or software on your computer.

Clear distinction between the two terms 2marks else 0

(d) Explain any five information and communication technology careers

▪ (10 Marks)

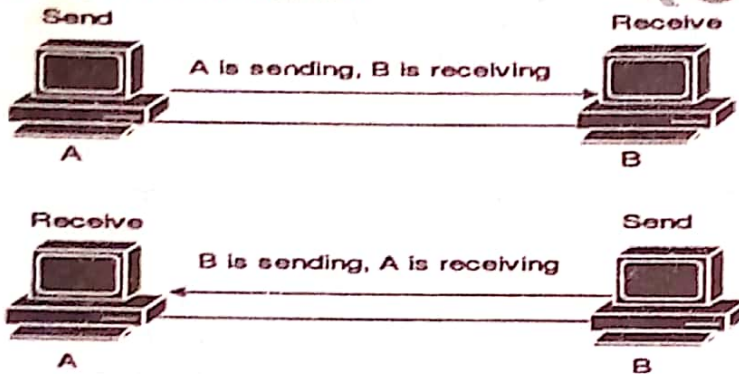
- Computer repairing and maintenance. Given that all computers regular maintenance, upgrading as well emergency repairs, demand for computer technicians continue to grow as more and more computerize their work place and homes.
- Computer programming. Large organizations like insurance companies, banks, manufacturing firms and government agencies hire programmers to work together with system analyst in order to; or Write in-house applications programs or system programs
- Software engineering. A career in software development and technical operation of computer hardware.
- Computer engineering. Computer and electronic engineers are coming up with more efficient and communication technology almost daily.

- **Information system management.** The information system manager controls, plans, staffs, schedules and monitors all activities of the ICT department in the organization.
- **Computer training.** Due to the dynamic nature of computers and information technology, there is a high demand for qualified ICT trainers. Some of the responsibilities of an ICT trainer are;
- **Database administration.** The major purpose of computerising organizations or institutions is to store data in an organised way for easy access, retrieval and update.
- **Website administration.** Responsible for management of web content.

Any five careers given @(@ stated 1 explained 1)=2marks *5 =10Marks

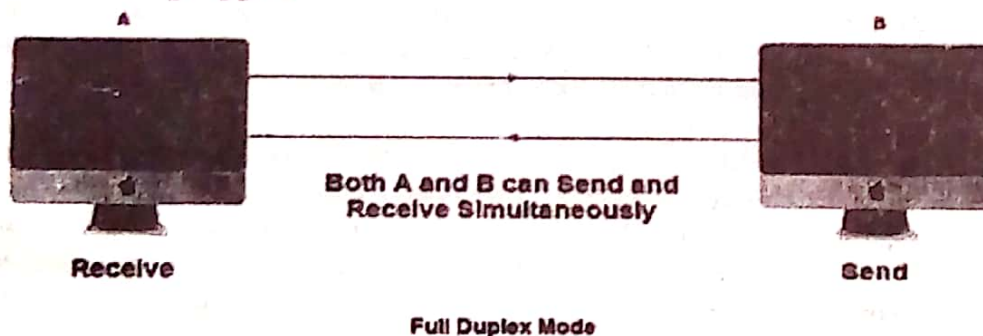
28. (a) By use of illustrations explain the following terms as used in computer communication (03 Marks @)
- (i) Half duplex transmission

- *half-duplex data transmission means that data can be transmitted in both directions on a signal carrier, but not at the same time.*



- (ii) Full duplex transmission

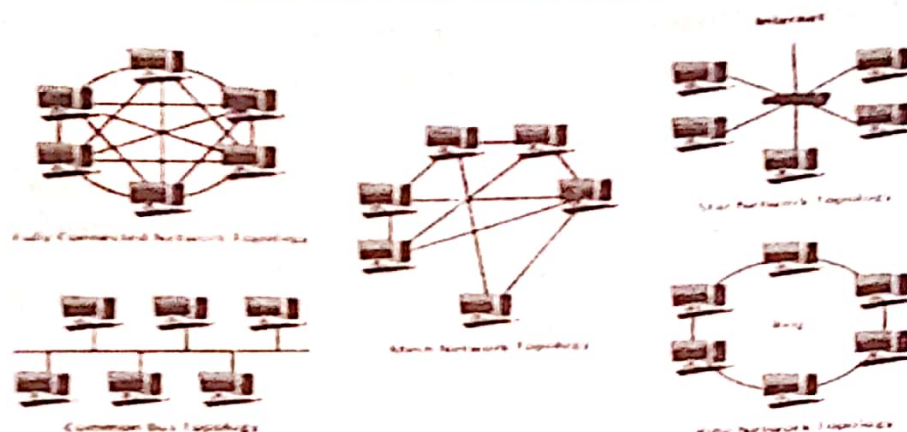
- *Full-duplex data transmission means that data can be transmitted in both directions on a signal carrier at the same time.*



- (iii) Topology

- A topology is the physical configuration of a network that determines how the network's computers are connected.
- A network topology is the arrangement of nodes usually switches, routers, or software switch/router features and connections in a network, often represented as a graph.
- Refers to the layout of a computer network.

PHYSICAL TOPOLOGIES



Explanation 2marks and illustration 1 mark = 3marks

(b) Differentiate between computer communication and networking. (02 Marks)

- Data communications refers to the transmission of this digital data between two or more computers and networking refers to interconnection of two or more computers to share resources such as data.

Clear distinction between the two terms 2marks else 0

(c) Explain to how you would connect two computers using unbound

- Get two smart phones which are compatible turn on their Bluetooth and pair them.

Correct explanation 2marks

(02 Marks)

29. (a) What is a Keyboard?

- A keyboard refers to a computer hardware input text device used to enter data in a computer.

Correct definition 2marks

(b) Nhuru saved her word document on a Compact disc and kept it for some time, she wanted to copy her work on the new laptop she had acquired. The compact disc drive had problems reading the disc.

- (i) Give three short comings which lead the compact disc to behave in this way.

(03 Marks)

- Dust on the laser lens
- Incompatible media (compact disc/dvd) used in relation to the drive
- Loose connection of the data cable or totally disconnected.
- When the compact disc drive is totally non functional.

*Any three @1mark *3 = 3marks*

(ii) Mention any three ways in which you would avoid problems in 29(b)(i) above (03 Marks)

- Using a compact disc cleaner
- Using a compatible CD or dvd
- Ensure proper connection
- Replace the Compact disc drive.

Any three @1mark *3 =3marks

(c) Distinguish between an interpreter and Compiler (02 Marks)

- Interpreter translates the source programs line-by-line, allowing the CPU to execute one line before translating the next while as compiler translates the entire source program into object code.

Interpreter	Compiler
Translates program one statement at a time.	Scans the entire program and translates it as a whole into machine code.
It takes less amount of time to analyze the source code but the overall execution time is slower.	It takes large amount of time to analyze the source code but the overall execution time is comparatively faster.
No intermediate object code is generated, hence are memory efficient.	Generates intermediate object code which further requires linking, hence requires more memory.
Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy.	It generates the error message only after scanning the whole program. Hence debugging is comparatively hard.
Programming language like Python, Ruby use interpreters.	Programming language like C, C++ use

Any correct distinction between the two terms 2marks else 0

(d) List any three guidelines for designing a good pseudo code (05 Marks)

- The statements must be short, clear and readable.
- Pseudo code lines should be clearly outlined and indented clearly.
- It should show clearly the start and stop of executable statements and control structures.
- Statements must not have more than one meaning.

Any three given @1mark *3 =3marks

(e) Mention five guidelines for drawing a program flow chart (05 Marks)

- There should be only one entry and one exit point of a program algorithm.
- Use correct symbol at each stage in the flowchart.
- Avoid a cross flow lines.
- Be as neat and tidy in drawing as possible.