

451/
COMPUTER STUDIES
FORM 2 END TERM 1 EXAM 2012
2 Hours
MARKING SCHEME

1. a) Clearly define a computer (2mks)

An electronic device/machine which converts (process) data into more meaningful information.

b) Give TWO reasons why a computer is referred to as an electronic device (2mks)

-Uses electronically signals to process data.

-It is made up of electronic components and uses electric energy.

2. Explain the following terms as used in computer science (8mks)

i) Data- **Collection of raw facts, figures or instructions that do not have much meaning to the user.**

ii) Program- **A set of related instruction which specify how data is to be processed.**

ii) Processing- **Collecting all terms of data together and converting them into information**

iv) Information- **Data which has been processed.**

3. State THREE main features of a computer (3mks)

Hardware, software and live ware

4. a) Explain the term system unit (2mks)

-**The casing that housed the internal components of the computer such as CPU and storage devices.**

b) List FOUR devices under the cover of the system unit (4mks)

-**Motherboard-Power supply-Main memory-Disk drivers-Battery**

5. Briefly state and explain the classification of computers according to historical development (10mks)

-**1st Gen; Used vacuum tubes, large in physical size**

-**2nd Gen; Used transistors in their memory, were relatively faster than 1st gen**

-**3rd Gen; Used integrated circuits in their memory; were faster than 2nd gen**

-**4th Gen; Used large scale and very large scale integrated circuits. Were small in size and very fast.**

-**5th Gen; Are modern computers. They perform multiprocessing.**

6. a) State THREE factors used to classify computers (3mks)

-**Physical size and processing computer**

-**Functionality (Mode/Method of operation)**

-**Purpose**

b) Explain the emerging trend in microcomputer technology in relation to size (1mks)

-**PCs are becoming small more portable e.g. PDA'S**

7. Define the following terms as used in computing (2mks)

i) System

-**A collection of independent entities that collectively work together to achieve a desired goal**

ii) Computer system- **A collection of entities that collectively work together to process and manage information using computers**

8. List and explain the main functional elements of a computer system (6mks)

Hardware; physical tangible devices that make up a computer system e.g. System unit, Input devices, output devices and storage devices.

Software; programs and data used in computer system that enable it perform a number of specific functions e.g. OS

Live ware/People ware; people who coordinate the various activities which are necessary to make a coordinate the various activities which are necessary to make a computer system perform useful tasks e.g. data entry clerks, computer operators, programmers etc

9 State TWO advantages of using a mouse instead of a keyboard (2Mks)

-**Mouse is easy and convenient to use**

-**Modern s/w include an option to use the mouse**

-**It selects a position on screen much more quickly than the keyboard**

10. State FOUR areas where speech input would be used (4mks)

- For people with special needs or disabilities e.g. handicapped esp. those with impaired hands
- Emergency situations
- In language translation programs
- Voice tags for voice dialing
- In automated materials handling e.g. in airports, a good handler give spoken commands
- For house/office car security where voice activated locks are used for access control
- In voice activated toys and games
- In electronic funds transfer

11. Name TWO examples of scanning (data capture) devices used at point of sale terminals in supermarkets.

- barcode reader
- Light pen
- Cash registers

12. List TWO factors one consider when selecting data input device. (2mks)

- User needs
- Type of data to be input
- Volume of data to be entered
- Cost i.e. the initial cost of input device and cost of using a device on a day to day basis
- Availability and reliability of data entry device.
- Accuracy required
- Availability of space

13. State THREE functions performed by the CPU (3MKS)

- Carries out processing of the data
- System control; controls the sequence of operations within the computer
- Gives the commands to all parts of the computer
- It controls use of the main memory storing of data and instructions
- Storage of data; provides temporally storage (RAM) and permanent storage (ROM)

14. In reference to ALU, explain the meaning of logic operations and give an example of this processing operation

- Is ability to a computer to compare two quantities or number of determine which is greater than, less than, equal to or not equal to the other.

15. a) Give FOUR types of registers found in the CPU (4MKS)

- Accumulator
- Storage register
- Instruction Address register

b) State any FOUR components found on the computer motherboard (4mks)

- Processor
- SIMM/DDR chips
- memory chips
- Interface chips
- Buses

16a) what is a computer device

- A device for reading data from or writing data into a storage media e.g. tape or disk

b) State any TWO types of computer drivers

- Hard disk drive
- Tape drive
- Floppy disk drive
- CD ROM drive
- USB port for flash disk

17a) State SIX factors which you would consider when selecting computer hardware in an organization

(6mks)

- Cost of the system
- Processor type and speed
- Storage capacity of hard disk and RAM memory size
- Warranty (service contract)
- Upgradeability of the computer
- Portability; light to carry
- Compatibility of the computer
- User needs
- Popularity of the hardware manufacture
- Availability of spare parts
- Multimedia capacity

b) List down any FOUR hardware components can add or upgrade in a computer system

-Processor (CPU)

-Ports e.g. USB ports/SCSI PORTS

-Hard disk

DVD drivers/tape drives

-RAM memory

-Expansion slots

18. a) Define an operating system (OS)

(2mks)

-The main program that controls the execution of user applications and enables the user to access the hardware and software resources of the computer.

b) List THREE recourses/components that an OS manages

(3MKS)

-Processor

-Memory (RAM)

-Secondary storage devices

-I/O devices

-Communication devices

c) What is a deadlock in reference to OS?

(2MKS)

A situation in an OS when a particular task holds the needed resource and refuse to release it for use by other task

d) Identify three functions of a taskbar

(3mks)

-Indicate what programs are running

-Holds minimized programs

-Provides a shortcut menu for arranging programs

19. Give TWO reasons why a new disk must be formatted before using it.

(2mks)

-To prepare a new disk so that files can be stored on it

-To create sectors and tracks for storage of data

-To create/prepare a new root directory and file allocation tables on the disk

-To create/prepare new root directory and file allocation tables on the disk

-To remove or delete any existing files or information stored on the disk if it no longer needed.

-To determine the effective storage capacity of the disk i.e. formatting enables the user to know how much data it can hold.

-To determine the effective storage capacity of the disk i.e. formatting enables the user to know how much data and information

-It can also check for bad sector on the new disk

20. Outline four ways of preventing piracy with regard to data and information

(4mks)

-Enact and enforce copyright laws and other regulatory frameworks that protects the owners of data and information

-Make software cheap enough to increase affordability

-Use licensed and certificates of authenticity to identify originals

-Set installation passwords that prevent illegal installation software.