COMPUTER STUDIES
451/ 1
PAPER 1

LAICOMET
MARKING SCHEME

SECTION A (40MARKS)

1. **peripheral** -Those that the elements (components) connected to computer apart from the system unit

-peripheral devices are connected to the CPU by use of special cables called data interface cables that carry data information and programs to and from the devices

2. Highlight the use of find and replace features in word processors(2mks)

–it is used to look for specified words in a document and replacing them with alternative

3.

-type of processor
-processing speed
-amount of main memory (RAM)
-storage capacity of the hard disk
-cost of the computer
-speed of output devises
-number of users who can access the computer at the same time

4. **identify two proper sitting posture while using computer** (2mks)

-adopt a relaxed and straight back position to avoid bending forward or leaning far backwards
-the feet should be firmly place flat on the floor
-the seat must be high enough allowing the eyes to be the same level with the top of the screen
-the seat must have a straight backrest that allows someone to sit upright. This prevents muscle and backache caused by poor sitting posture
-the height of the chair or working surface must be high enough such that your forearms are parallel with your floor and your wrists are straight
-the seat must be high enough relative to the table to enable the user use the hands on the peripheral device comfortably

5. **Distinguish between cold booting and warm booting** (2mks)

-cold booting happens when a computer that was originally off is switched on by pressing the power button on the system nit
-warm booting happens when a computer that was originally on is forced to restart by pressing the restart button on the system unit or by pressing a combination of keys on he keyboard (Ctrl+Alto+Del)

6. **(**i) **State two tasks of processor** (2mks)

-it carries out processing of data
-system control,ie it controls the sequence of operations within the computer
-it gives commands to all parts of the computer
-it controls the use of the main memory in storing of data and instructions
-provide temporary storage (RAM) and permanent storage (ROM)

(i) **List any four examples of computer output** (2mks)

-monitors
-printers
-sound output, e.g. speakers
-plotters
-sound cards

-digital projectors

7. -DVD has a large storage capacity than a CD
-a DVD offers better data storage quality
8. -damage to eyesight / eye problems
-eyestrain
-headache
-repetitive strain injury (RSI), i.e. arm strain
9. (i) Memory management
-loads application programs fro an external storage into available locations in the man memory (RAM). It keeps track (monitors) of the parts of the memory that are in use, and those which are free

(ii**) Job scheduling**
-it prepares, schedules and monitor jobs for continuous processing by the computer system. it determines which task will be processed first and ensure that the one that is currently being processed is closely monitored to avoid wasting time in the processor

(iii**) Error handling**
-the OS reports any error that occurs during program execution, and also keeps the computer running when errors occur

(iv) **Resource control**
-the OS controls the use of computer resource by other system software and application programs executed. These resources include; input/output devices, CPU and processing time
10. in two complement there is only one way of representing a zero unlike in ones complement
11. -type and size of business
-timing aspects of the information produced
-link between applications
-volume of data records held in the organization
-cost of acquiring the relevant hard, software, storage media, etc and the cost of maintenance.
12. a) -computer becomes outdated very fast due to rapid change in computer technology hence leading to less capital
-computers are costly
-incase of system failure, it might be difficult to invert to the old manual system
-leads to job replacement in other organization

b) Give two factors that should be considered before enrolling for an ICT course in a college
-cost
-job opportunities
-validity of exams offered/examining body(2mks)

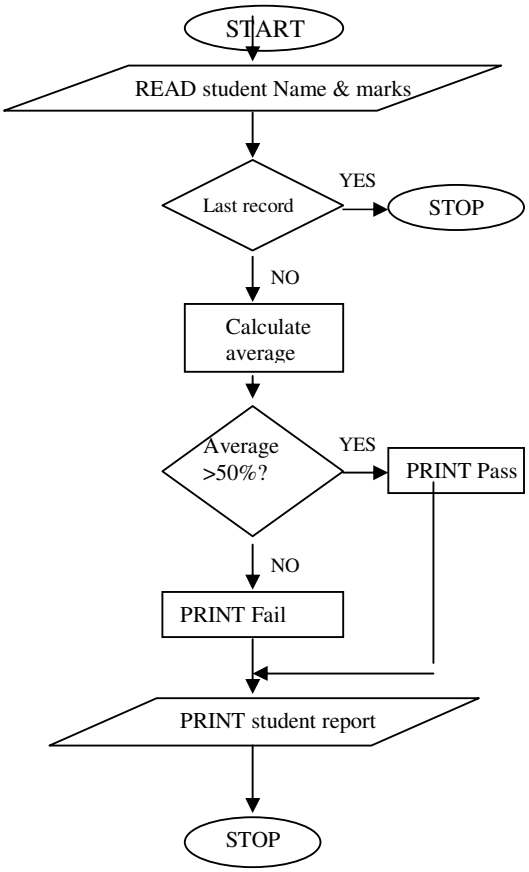
13. -simulating the execution of a program using a pen and a paper
-a method of checking a program for logical errors by making the corrections on a paper from the printouts
-dry running is where a program is tested on paper before it is keyed in
14. -large in physical size
-relied on thermion valve (vacuum tubes) to process and store data
-consumed a lot of power
-the computer constantly broke down due to the excessive heat generated, hence, were short lived, and were not very reliable
-their internal memory capacity / size were low
-very costly
-used magnetic drum memory
-provide a lot of heat

15. a) = value – answer- 2
b) =SUMIF (A1:A3,">=5")
c) =$C7 + D$3

SECTION B (60MARKS)

16. a**)** -sequence
-selection
-Iteration (looping)

b) Note. 1. It is assumed that the student does six subjects
2. The output required is; average score and total marks (7mks)



c) -analog data is continuous in nature, while digital data is in discrete form

d) -computers process data faster than devices such as typewriters and calculators

-Computers are more accurate:-give the correct instruction and data. Computer produces more accurate results. They are also able to handle numbers with many decimal places without rounding off

-Computers are more efficient: -computers require less effort to process data compared to human being and other machine

17. **a) (i)** holds data and instructions temporarily just before and after processing

(ii) -accumulator
-instruction register

-address register
-storage register

b) - The surface of hard disk is divided into concentric circles called tracks. Parallel tracks on several platters are called cylinders

-the tracks are further subdivided into sectors. Several sectors can be grouped to form clusters

c**)** -cost involved, i.e. the printer's buying price, cost of maintenance and cost of consumable items like printing papers, ribbons / cartridges

-volume of printing expected (speed of the printer)
-quality of printing e.g. ability to print graphics and colour
-capability of the selected printer, i.e. multiple cop production paper size, print styles e.t.c
-compatibility with other computers
-environment in which the printer will operate
-easy of maintenance
-reliability of the printer
-application it is required for (i.e. purpose / use of the printer)
-documentation
-availability

d) - Less error (correct prices) are used at the point of entry
-it ensures faster entry of data, since the attendant does not have to enter details manually
-ensure good stock management procedures

* e) A school board of governors intends to put up a computer laboratory. Suggest three factors to be considered in accomplishing the above task (3mks)

18. a) *Parallel running* is where both the old and the new systems are run in parallel to each other (at the same time) for sometime until users have gained confidence in the system. Data is processed on both systems in order to compare their performance, and also cross-check the results

Direct changeover is a complete replacement of the old system with the new system in one bold move. The old system is stopped and abandoned and the new ✓system starts operating immediately

ii) -it may be very inconveniencing in case the new system fails or faces problem
-the users may not have not gained enough confidence to run the new system

iii) -there is risk in terms of disk failure
-the system testing must be done to great accuracy
-the system requires training of personnel due to introduction of new programs
-the system may be expensive to run due to hardware and software costs.

iv) -if the output from the two systems is similar, confidence in the ICT system is promoted
-users have time to familiarize themselves with the ICT system
-it is reliable because it enables through testing

b)-workbook/worksheet
-database
-graph/chart

c) (i)- A collection/group of related Web pages belonging to an organization or individual

(ii) computer internet software

- Telecommunication facilities, e.g. telephone lines, telephone exchange stations and satellite transmission.
- Modems
- internet service provider (ISP)
- TCP/IP protocols

19. **a) (i)** -programs are represented graphically by use of icon
-commands are selected and issued using pointing devices e.g. mouse
-there is use of pull-down menus
-programs open by displaying windows
(ii) -user friendly
-easy to learn
(iii) -they are more flexible than menu-driven interfaces
b) -Change – accepts the current selection in the suggestion box
-Ignore once – leave the highlighted error unchanged (if the highlighted word is a valid word) and finds the next spelling or grammar error
-Ignore All – retain all the occurrences of the same word or phase in the document from the another language, e.g. a Kiswahili
- Add – adds the highlighted word in the suggestion box to the custom dictionary
c) i) Tapping involves listening to a transmission line to gain a copy of the message being transmitted
ii) -piracy means making illegal copies of copyrighted software, data or information
iii)-trespass refers to the illegal physical entry to restricted places where computer hardware, software and backed up data is kept
-the act of accessing information illegally on a local or remote computer over a network
iv) -fraud is the use of computer to conceal information or cheat other people with the information of gaining money or information.
d) -Physical size – supercomputers, mainframe, minicomputer and microcomputers
-Functionality (mode of data processing) -analog, digital and hybrid
-Purpose -general and special-purpose
-generations -1st and 5th generation computers

20. i) Modulation is converting digital signals to analog signals for transmission over an analog media
Demodulation is the process of converting analog signal back into digital form
ii) Multiplexing is the process of sending multiple signals at the receiving end
Demultiplexing? ?*
b) –**operational feasibility**
-technical feasibility
-economical feasibility
-schedule feasibility
c) i) installing anti-virus software
ii) Backing up data
iii) User access levels
iv) Use of passwords
d) **Highlight three advantages of database systems.**
-control of data redundancy
-data consistency
-allow sharing of data
-improve data integrity
-improved security