FORM FOUR CLUSTER KCSE MODEL9

COMPUTER PAPER 1 ANSWERS

SECTION A (40 Marks)

Answer all questions

1. Accept input, central processing unit, secondary storage and output.

   State four different parts that make up a computer. (2mks)

   o Central processing unit.

   o Storage unit.

   o Input unit.

   o Output unit.

2. Logical files as way files viewed in terms of its contents and processing to be upon them whereas physical files is the actual arrangement of the content in a storage media.

3. As computers are successfully developed in generations, their sizes are reducing.

4. (a) Advantages of USB.

   Accept – supports a wide range/variety of peripheral devices.

   - Faster in signal transmission.

   - Provoke quality data transmission over long distance. Award 1mk each

   (b) Parallel cables faster than serial.

   - Reason

   – they use a set of many conductors than serial.

5. a)
   - WAN cover unlimited geographical area MAN cover limited area.

   - It is expensive to set up unlike MAN.

   - It is difficult to install than MAN.

   - It is slow in data transmission than MAN

   b)

   - Data communication media/cables.
   - Communication device/NIC/modem.
   - Network software/network o/s/ network protocol.
   - System entropy – decay of system with time.

6. a)
   - CAPSLOCK
   - NUMSLOCK.
   - SCROLL.

- INSERT

b)

- The power cables in off/disconnected to computer.

- Wear antistatic material to discharging static charge of the body.

- Connect power supply cable to the drive.

- Connect drive to the motherboard.

7. - Technician

- Hardware engineer.

8. a)

– computer crime is hard to detect.

- It is not easy to get clear evidence.

- Most law enforces are illiterate.

- Few people know the management of computers crime

b)) Autocorrect –automatically correct wrong spelt words and replace with correct one while autocomplete display a word automatically when typing a few characters e.g. mon gives Monday.

9. a)

- It is a multi user operating system.

- It is multi tasking operating system

- it allows a number of users to interact with the

computer at the same time.

b)

- Word processor.

- Spread sheet.

- Data sheet.

- Auto CAD.

- Ms – Excel.

- Ms – Access.

o Word processors e.g. ms-word.

o Spreadsheets e.g. ms-excel.

o Databases e.g. ms-access

o DTP e.g. Adobe PageMaker

10. Subtract 01011_2 from 11001_2

11001_2

$-\underline{01011_2}$

201110_2

Or

Using two's compliment

Flip ___ 01011_2 to

10100

Add 1 $+ \quad 1$

$\underline{10101}$

Add 11001_2 to 10101_2

Therefore 11001_2

$\underline{10101}$

(1) 0110

Discard $=01110_2$ (Any method that gives the correct answer)

11. a)

Buffer – control the speed difference communicating device or control the speed imbalance between two devices.

Cache – it boost CPU processing speed because the CPU can access it much more quickly than RAM.

b)

- Data bus.

- Control bus.

- Address bus.

Functions:

- Data bus – carries data to and from the CPU.

- Pathway where the actual transfer takes place

- Address bus – used to locate the storage position in memory where the next instruction or data to be processed is held.

- Control bus – it is pathway for all timing and controlling functions sent by the control unit to other parts of the system

12. - Value – numeric and data types.

- Labels – alphabetical.

- Formulars – user define mathematic expression.

- Functions

– in built mathematic arguments that compost of text, operators and ranges.

13. a)

- It is the use of computer to visualize, manipulate and interact with complex data

b)

- Video mapping.

- Immensive systems.

- Telephone

14. (i) Assembler: – a unity that translates program code written in assembly language to machine code.

(ii) Compiler: – a unity that translates program code written in high level language to machine code by translating it all once and more at each run time.

(iii) Interpreter: - a unity that translates program code written in high level language to machine code by translating it a line at a time and each and every run time.

(iv) Source program: - program code written in anon machine code format, usually in high level language.

(v) Object program: - machine code that is derived from translation of program code written in non machine code format.

(vi) A logarithm: - clearly defined steps of instruction that specify a sequence of operations to be carried out in order to solve a specific task.

(vii) Flow chart: - a diagrammatic two dimensional two dimensional representation of clearly defined steps of instructions that specify a sequence of operations to be carried out in order to solve a specific task.

(viii) Pseudo code: - clearly defined steps of instructions that specify a sequence of operations to be carried out in order to solve a specific problem. The steps are written in a mixture of English.

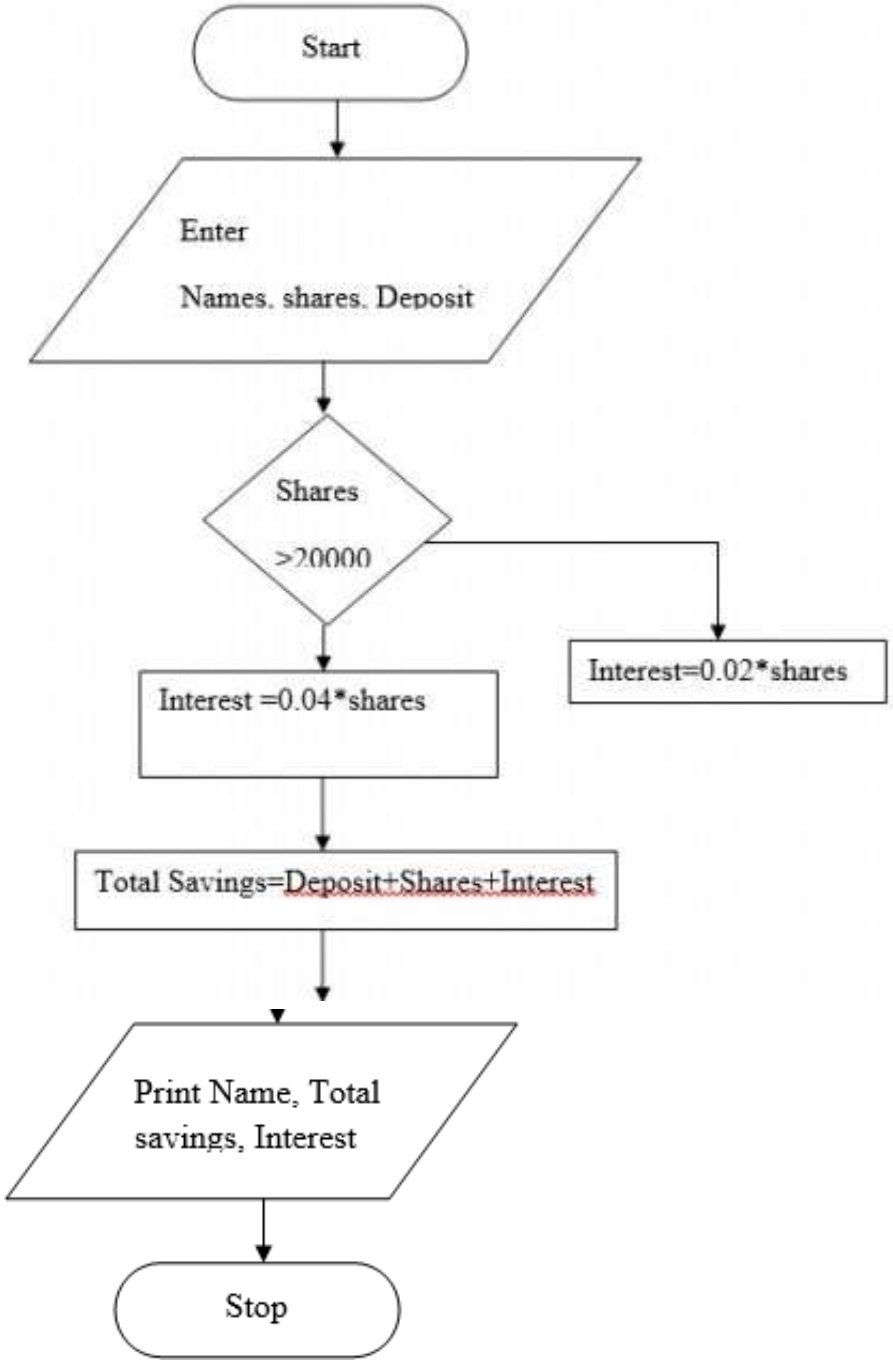
(ix) Statements and the intended language syntax code.

SECTION B (60 Marks)

Answer question 15 and any other three questions

15.

```
START
        Input Name, share, Deposit
        If share > 20000 THEN
                Interest =0.04* shares
                ELSE
                Interest=0.02* shares
        Endlf
                Total savings =Deposit +Interest +Shares
                Print Name, Total saving, Interest
STOP
```



16. (a)

(i) Multiplexing refers to the process of sending multiple data signal over same medium while Demultiplexing is the process of separating the multiplexed signals at the receiving end

(ii) Simplex transmission refers to communication in only one direction in only one direction e.g. in radio transmission while in Half Duplex communication is in both directions but one at a time e.g. police walkie Talkie.

(b)

-Star topology – all communication devices are connected to a central hub.

-Ring topology – all communication components are connected each to a single cable forming a ring.

-Mesh topology – this topology uses separate cable to connect each device to every other devices on the network providing a straight communication path.

-Tree/Hierarchical topology – all nodes in this topology are connected in form of a tree with nodes leaves and links as branches. The transmission medium is a branching cable with no closed loops.

-Bus topology – all devices are connected to a central cable called the bus or backbone. Transmission and reception of a message is done by all the nodes.

(c)

- Managing the programmers.

- Liasing with chief system analyst.

- Review and control program documentation.

- Reviewing programs performance.

- Ensuring that all programs are well tested before put into use.

-Reviewing all the system specifications before handling over to the Programmers.

(d)

-Bachelor of computer

-Bachelor of information technology.

-Bachelor of Science in computer Engineering.

-Bachelor of Computer Networking.

-Bachelor of Business and Information Technology.

-Bachelor of computer programming.

17. i) -Database management system (DBMS) - User programs. - Database.

ii) a) Attributes – facts about an entity whose data is stored in a database

b) Database model – a description of how data is stored in data items in a file/table and how it can be linked to other files.

c) Macro –A database object used to make automatic execution of some tasks in database.

(iii) -Relational –data is stored in form used to automatic execution of some tasks in database.

-Hierarchical –data items are related to each other in a tree like structure.

-Network model –these are many /multiple links between various data items data items in various files, hence forming network of links.

(iv) - To avoid unnecessary data duplication.

-To make updating of data easier.

-To a void data inconsistency.

18. (a) Record – a collection of related fields that represents a single entity.

File –a collection of related records that give a complete set of information about a certain item.

Database a collection of related tables.

(b)

(i) Install latest antivirus s/w scan mail attachment before opening. Scan external storage (devices before opening them)

(ii) Cu –coordinates instructions in the cpu. .

Alu –used to perform arithmetic and logical functions.

mm – used for primary storage.

19. (a) Define the term ergonomics?

- It is a science that determines the best working condition for humans who work with machines.

(b) (i) Give any three advantages of using a fibre optic cable.
-Cannot be affected by electromagnetic interference

-Offer fast transmission rates than other media.
-supports high bandwidth or can transit large volume at once.
-Less prone to transmission impairments or has low attention.
-Eaves dropping is difficult to be done.
-Takes limited or less space
(ii) - Name two types of fibre optic.

- Single mode.
- Multi mode.

(c) State three advantages of wireless communication.
-Flexible in operation
– one move around without losing access to the network.
-Covers a large geographical area easily. .

(d) Explain the following terms
(i) Multiplexing. - It is the process of sending multiple data over the same medium (Give mark if diagram exist)
(ii) Bandwidth. - It is maximum amount of data that a transmission medium can any one time.
(iii) Baseband signal. - It is the maximum amount of data that a transmission medium can carry at any one time.

(e) Explain the use of these communication devices.
(i) Routers. -It interconnect different network. It directs data efficiently toward its intended destination across a network.
(ii) Hub. -Is a component or device in a network that transmit signals by broadcasting them to all the components on the network. The computer whose address is on the message from the network that is part of the broadcast domain.