KENYA NATIONAL EXAMINATION COUNCIL

KCSE 2007

COMPUTER STUDIES
PAPER 1
MARKING SCHEME

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Computer Studies Paper 1

1.
- When the computer is switched on, the computer does power on self testing (POST).
- Reads the system file in the ROM.
- Loads the operating system after checking the drive(s) containing it.
- The operating system checks the input/output devices. ***(4 x $^1/_2$ = 2 marks)***

2. (a) ***Backspace:*** Deletes the characters to the left of the cursor/insertion point. Moves the cursor one space to the left. ***(1 mark)***

(b) ***Insert:*** Switches between insert and type over or overwrite modes. ***(1 mark)***

3.
- ***Too many programs installed***: uninstall unnecessary programs, increase main memory or upgrade the processor with a faster one.
- ***Corrupted system files***: re-install the operating systems and the applications.
- ***Virus attack***: load the latest anti-virus and clean the computer. ***(3 x 1 = 3 marks)***

4. (a) Information regarding the source of the software or a proof of origin of software. ***(1 mark)***

(b)
- In-house developed.
- Outsourcing the software.
- Buying ready made.
- Free ware/ Shareware. ***(4 x $^1/_2$ = 2 marks)***

5. $5^1/_4$', $3^1/_2$', Zip disks, DVDs. ***(2 marks)***

6. (a) To avoid forgetting, use password that you can easily regenerate. ***(1 mark)***

(b) To avoid hacking, use password, do not use your names, family names or one character. ***(1 mark)***

7.
- Faster issuing of books.
- Easy access to the catalogue.
- Upto date records.
- Audit of books.
- Online referencing. ***(Any 4 x $^1/_2$ = 2 marks)***

8. Step 1 Binary Equivalent $23_{10} = 10111_2$
Step 2 Add 0 infront of the MSB to make it six bit number = 010111_2
Step 3 Find one's complement = 101000_2
Step 4 Add 1 to No.

$$\begin{array}{r} 101000 \\ +1 \\ \hline 101001_2 \end{array}$$

(4 marks)

9.
- ***Data series***: The range of data from the worksheet that is used to create the graph.
- ***Axis:*** A vertical or horizontal line against which data is plotted.
- ***Legend***. A cross reference showing how each series is represented in the chart, that is, a key.

(3 marks)

10. (a) Data integrity - Ensuring the accuracy and completeness of data when it enters a system and throughout its subsequent processing. ***(2 marks)***

(b)

- During transmission.
- During data processing.
- During data capture.
- During collection.
- During storage.

(Any 4 x $^1/_2$ = 2 marks)

11. (a) ***Network Interface Card***: Provides a physical connection between a computer and data transmission media. ***(1 mark)***

(b) ***Network protocols:*** Provide a logic which governs the ways computers communicate over a network. ***(1 mark)***

(c) ***Hub:*** Provides additional ports for computer connectivity. ***(1 mark)***

12. Newsletters (Periodicals), brochures, posters, calendars, certificates, cards, books. ***(Any 4 x $^1/_2$ = 2 marks)***

13. (a) ***Input mask*** is a format restricting the way data should be entered into the database while ***design*** is the establishment of the layout of the user interface that enable the user to interact with the database such as form and screen design. ***(2 marks)***

(b) ***Table*** is a structure consisting of rows and columns used by the database to store and display data, While a ***Query*** are set of statements used to filter and display data from the database. ***(2 marks)***

14.

- Hardware configuration, for example: Memory size.
- Model/design, for example: IBM.
- Application intended for the computer.
- User friendliness.
- Availability in the market.
- Cost.
- Reliability.

(Any 4 x $^1/_2$ = 2 marks)

15. Read b, h
A = $^1/_2$bh
Display A
Exit
(2 marks)

16. (a) (i) Selection Sequence ***(2 marks)***

(ii) M = N = P = Q = 17 ***(4 marks)***

(iii)
```
Start
M = 6
N = 17
P = M-N
Q = N+M

If P > Q then

N = M
Q = N
P = M

Else
```

M = N
Q = M
P = N

End if
Print N, M, P and Q

End *(7 marks)*

(b)

- Translating assembly language to source language (Source code object code).
- Linking the object code with other programs.
- Deleting errors.
- Producing object code.
- Allocates memory for the object code. *(2 marks)*

17. (a) (i) A ***browser*** is a program that enables one to find, retrieve, view and send hypertext and hypermedia document over the world wide web. *(1 mark)*

(ii) A ***hyperlink*** is an element in an electronic document that links to another place in the same document or to an entirely different document. *(1 mark)*

(iii) A ***hypertext document*** is a document containing links to the documents located on the same computer or another computer on the internet. *(1 mark)*

(b)

- Searching for information.
- Downloading.
- Advertising.
- Learning.
- Bookings and reservations.
- Communication, for example: fax, e-mail.
- Electronic funds transfer. *(Any 6 x $^1/_2$ = 3 marks)*

(c) (i) Most appropriate topology is star topology because: *(1 mark)*

- it is easy to set up, configure, control.
- Adding new devices is easy.
- If a computer stops working, the network is not affected.
- if a piece of cable is affected, only one computer is affected.

(Any 4 x $^1/_2$ = 2 marks)

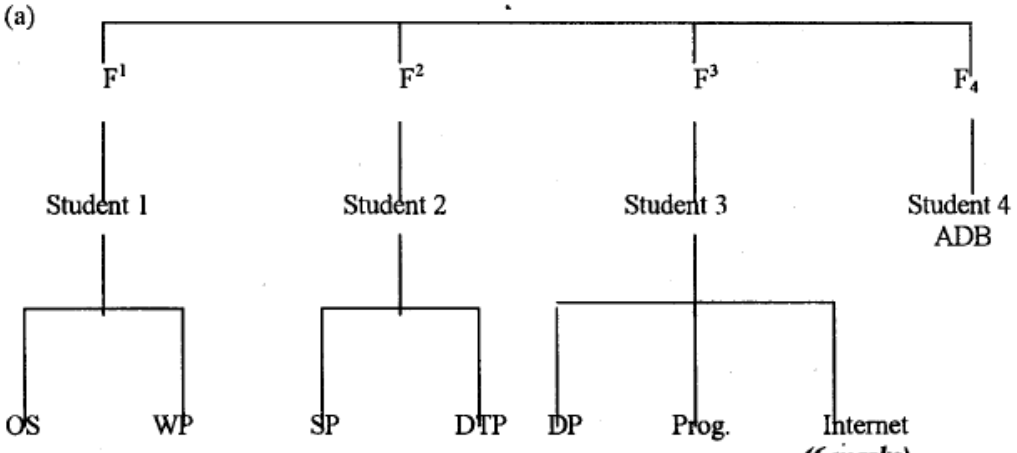
(ii)

- Connect the network.
- Acquire internet software, modems etc.
- Identify an internet service provider.
- Acquire/establish a communication link.
- Configure the system. *(Any 4 x 1 = 4 marks)*

d)

(i) Personal identifier.
(ii) Host/ server (computer).
(iii) Top level domain.
(iv) The country indicator. *(2 marks)*

18. (a)



(6 marks)

(b) C: F_4\Student 1\ADB\Project *(2 marks)*

(c) (i) Back up. *(1 mark)*
(ii) Use of password. *(1 mark)*

(d) (i) ***Processor:*** The OS schedules the use of the processor by application packages.
(ii) ***Memory:*** The OS partitions the memory and determines how it can be used.
(iii) ***Communication devices and ports:*** The OS manages the routine of traffic via communication devices. *(3 marks)*

(e) Trouble shooting refers to detecting fault within an item (device***).*** *(1 mark)*

19. (a)

- ***Economic feasibility*** : It involves benefits and cost.
- ***Technical feasibility:*** It involves determining whether or not a system can actually be constructed to solve the problem at hand.
- ***Operational feasibility:*** This test of feasibility asks if the system will work when developed and installed.
- ***Schedule feasibility***: It is concerned with whether the system can be put into use within the stipulated time. *(Any 3 x 2 = 6 marks)*

(b)

- Hardware requirements.
- Software requirements.
- User requirements. *(3 marks)*

(c)

- ***Parallel change over***: The old system continues alongside the new system for a few weeks or months.
- ***Direct change over***: The user stops using the old system and starts using the new system.
- ***Phased conversion:*** This is used with larger systems that can be broken into individual modules that can be implemented separately at different times. *(6 marks)*

20. (a) (i) Name: It is the most appropriate as it is the one with the least chances of being shared wholly by more than one student . *(2 marks)*

(ii) Name: Text
Address: Text
Town: Text
D.O.B.: Date
Marks: Number
Fees: Currency ***(6 x $^1/_2$ = 3 marks)***

(iii)

- Forms are more user friendly.
- Forms have extended facilities for data entry that are not directly available on tables. ***(2 marks)***

(b)

- Database programmer.
- Database administrator.
- Database designer.
- Data entry clerk.
- Data processing manager. ***(2 x1 = 2 marks)***

(c) (i) A table in a database contains records which can be referenced for or sorted but not for querying. ***(2 marks)***

(ii) ***Mouse pointer*** refers to the cursor that moves around as the mouse is moved on a surface / used to select. ***Insertion point*** is the position (marked by a cursor) where any typed character will appear. ***(2 marks)***

(d)

- Highlight the cells to be merged.
- Invoke the merge command. (2 marks)