FORM FOUR EVALUATION

Kenya Certificate of Secondary Education 2009

MARKING SCHEME

COMPUTER STUDIES P1

1.

(i) Desktop computer
(ii) Laptop computer
(iii) Palmtop computer / notebook. (3mks)

2.

(i) Computers process data faster
(ii) Computers are more accurate
(iii) Computers are more efficient. (3mks)

3.

(a) This is the process of dividing a large physical disk into two or more partitions called logical drives (1mk)
(b) (i) The user may intend to install more than one operating system on the same disk.
(ii) For purpose of backup on the same disk but different partitions.

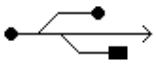
4.

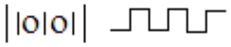
(i) A good computer must have high processor speed. (1mk)
(ii) It is important to understand the terms and conditions of after selling a product in case of failure or malfunction that is whether the seller is ready to provide after sales services. (1mk)
(iii) The best convention would be to buy a computer that can easily be upgraded to accommodate emergent technologies. (1mk)
(iv) Smaller computer enhances mobility. (1mk)

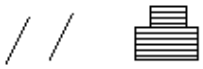
5.

(i) Help in transferring an application from a secondary storage to a primary storage when running the application. (1mk)
(ii) Help in tracing and removing errors from a program. (1mk)
(iii) Linkers enable several programs (modules) to subroutines to be connected when running (1mk)

6.

(a) 

(b) 

(c) 

7.

(a) Set a printer as a default.
(b) The printer may have been configured to the wrong port.
(c) Check the picking mechanism of the paper.

(Award 1 mark for each correct answer)

8.

(a) Optical scanners capture data using the principle of light. (1mk)
Examples - Optical mark recognition. (½mk)
- Optical bar recognition (½mk)

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- Optical character recognition (½mk)

(b) Magnetic scanners capture data by using the principle 2 magnetism.
Examples – MICR (½mk)
- Magnetic strip recognition (½mk)

9.
(i) Displays al files in drive D whose names begin with P and have extension EXE. (1mk)
(ii) Format drive A.

10.
(i) Command line interface. (1mk)
(ii) Menu driven interface. (1mk)
(iii)Graphical use interface (1mk)

11.
(i) It is a feature which enables text to automatically flow to the next line if the end of the current one is reached. (1mk)
(ii) Thesaurus is a feature used to find synomus and autonymus. (1mk)

12. Telecommuting is a term used to refer to a situation where an employee works usually at home using a computer connected to the workplace network. (1mk)

13.
(i) Source program refers to the program written in its original language (source code) either assembly or high level. (2mks)
(ii) Object code is the machine code equivalent. It is the program in compute language. (2mks)

14.
(a) Transforming of raw data to finished waited information. (2mks)
(b) Stages through which data passes before it becomes the finished and wanted information. (2mks)

15.
- Authenticity
- Documentation
- User needs
- Reliability
- User friendliness
- Cost
- Compatibility and system configurations
- Portability

(Any correct answer award 1 mark)
1 x 4 = 4mks

SECTION B

16.
(a) Program Even numbers (input, output):
{Program used to generate even numbers between 0 and 201}
Var
Begin, ✔ **½mk**
Even = 2 ✔ **1mk**
Repeat ✔ **1mk**
Write even ✔ **1mk**
Even = Even + 2 ✔ **1mk**

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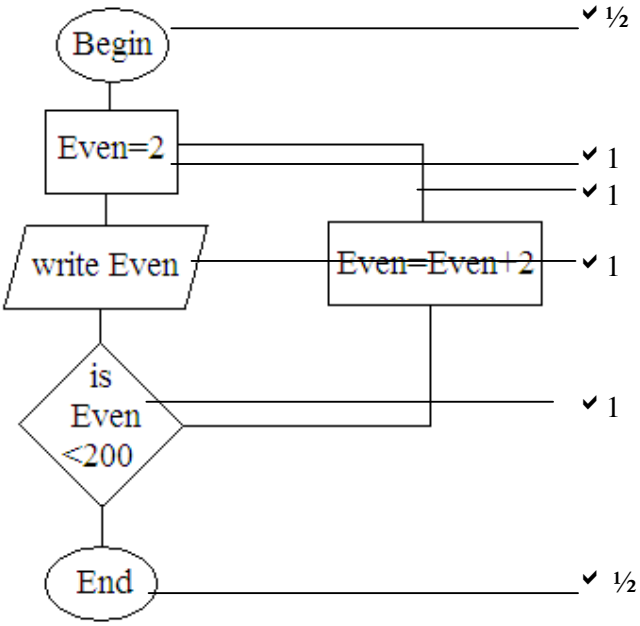
Until Even = 200 ✔ **1mk**

End. ✔ **½mk**

*** Also accept use of other control structures such as While… DO**

(b))



(c) Give types used in structural programming..

(d)

- Rial
- Integer
- Char
- String
- Boalean.

17. (a)

(i) This is a computer language that uses binary digits to represent data and information. (2mks)

(ii) Refer to language processors such as assembler, interpreter and compilers that translate the source code to object code. (2mks)

(b)

(i) Parallel changeover. (1mk)

(ii) Direct changeover. (1mk)

(iii)Phase changeover. (1mk)

(c)

(i) During investigation and fact finding. (2mk)

(ii)

<u>Advantages</u>

- Reliable and accurate.
- Intensive investigation.
- Questions can be rephrased for clarification.
- Non.-verbal communication like facial expression can be used and observed.
- Feedback is obtained instantly

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Disadvantages

- Expensive and time consuming.
- Interviews are difficult to prepare and organize.
- The interviewee may be reluctant to answer some questions.
- Subjective.

18.

(a) A computer program which performs tasks that would otherwise requires skills of human expert if done by people. (2mks)

(b) (i) A robot is a computer controlled device usually in form of mechanical and is used to manipulate objects. (2mks)

(ii)

- They are accurate
- They work under hazardous conditions
- They can perform a wide variety of tasks
- Are quite efficient
- Are fast
- Cannot get tired nor bored.

(Any correct answer award 1mk) 4mks

(c) (i)This is a person who is skilled in designing and developing computer components.

(d) (i) This is a person who is skilled in software development and technical operation of computer hardware.

(ii) These are skilled persons who maintain, upgrade and repair computers to ensure that all the devices are good working condition.

(iii)This is a person skilled in writing programs in high level language. (1mk)

(iv)System analyst whose responsibility is to design a new system, team up with programmers to ensure smooth coding and carries out system review and maintenance. (1mk)

(e)

- Universities – Nairobi, Keynotes, JKUAT, Egerton, Moi.
- Polytechnics – Kenya, Mombasa, and Eldoret polytechnic.
- College – Strathmore
- Institutes - Kisumu institute, Kabete institute, Kiambu institute, Mombasa institute.

(3 mks)

19.

(a) Functions are predefined formula that can be quickly used quickly instead of having to create a new one each time a calculation has to be carried out. (1mk)

- Formulas are user defined mathematical expressions that create relationship between calls and return a value in chosen calls. (1mk)

(b) It counts the number of occurrences of the word "oranges" in the range A5: DB. (2mks)

(c)

FORMULA IN C:10	FORMULA IN F:15
= A5*B5	= D10 * E10
= A $ 5	= D $ 5
= 4 * B $ 6	=4 * E $ 6

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(d) This is where database are created for different departments in an organizations in different computers that are networked (2mks)

(ii) - Searching of items is fast. (1mk)
- No interference of other departments data (1mk)

(e) - used to enter data into tables.
- Display data from tables and queries.

(f) - Ms word
- WordStar
- word perfect etc

For Any word processor package award 1 mark (max = 2mks).

20. (a)

(i) Random- (direct) (½)
(ii) Serial (½)
(iii)Serial (½)
(iv)Direct (½)

(b) $1110_2 - 101_2$

Change number to 4 digits
101 ⇒ 0101 ✔ (1mk)
Find the complement of number
0101 ⇒ 1010 ✔ (1mk)

$$\begin{array}{r} 11101 \\ +1010 \\ \hline 110111 \\ 1 \\ \hline 11000 \end{array}$$

→ Carry over the overflow ✔ (1mk)

✔

(c) Convert 0.375_{10} into binary notation.

Solution:

$0.375 \times 2 = 0.750$

$0.750 \times 2 = 1.500$

$0.500 \times 2 = 1.000$ 2mks

$\therefore 0.375_{10} = 0.011_2$

(d) This is the way in which computer and other devices have been arranged or how data is passed from one computer to another. (2mks)

(e)

- Star topology ✔ (½)
- Bus topology ✔ (½)
- Mesh topology ✔ (½)
- Ring topology ✔ (½)

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