

**451/1
COMPUTER STUDIES
THEORY PAPER
JULY/AUGUST 2008**

**BOMET DISTRICT MOCK EXAMINATION
Kenya Certificate of Secondary Education (KCSE) 2008**

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MARKING SCHEME

SECTION 40 MARKS

1.

- Input ✓
- Processing ✓
- Memory ✓
- Output ✓

(½ mark each)

2.

- Control unit direct the transfer of data and all the coordination and supervision of the CPU ✓ (1mk)
- Arithmetic logic unit perform mathematical and logical operations ✓ (1mk)

3.

- Read only memory (ROM) ✓ (1/2mk)
- Random access memory RAM ✓ (1/2mk)

- ROM is a primary memory unit that can only be reach from but not written into ✓ (1mk)
- RAM is a temporary storage unit that allows the user to read from and write into ✓ (1mk)

4.

- i) Pause – A toggle key that temporarily stop the current operation ✓ (1mk)
- ii) Function keys – provides software dependent commands. ✓ (1mk)

5.

- By controlling a microphone with a speech recognition device , it is possible to speak to a computer and have it respond as if you were using a keyboard e.g. you can enter text, issue commands, modify and edit document e.t.c ✓ (2mks)
- It is difficult to develop because of the tremendous difference in voice pattern e.g accent, tones e.t.c. The device must learn the unique speech pattern of an individual. ✓ (2mks)

6.

- A magnetic disk is a direct access storage media (DASD) that permits the computer to find data directly on the disk. ✓ (2mks)

7.

- Hard disk provides greater storage capacity than the floppy disk ✓ (1mks)
- Hard disk operates or much higher retrieval speed. ✓ (½ mk)

8.

- Testing is done to find out whether the system meets all requirements defined. (1mk)
- If is also important to test whether the system has some failure so as to be corrected before implementation. (½ mk)

9.

a)

Weight	2^2	2^1	2^0		2^{-1}	2^{-2}	2^{-3}
Binary Digit	1	1	1		0	1	1
Value in base 10	4	2	1		0	25	125

✓ (1mk)

$4 \times 1 = 4.000$

$0.50 \times 0 = 0.000$

$2 \times 1 = 2.000$

$0.25 \times 1 = 0.250$

$1 \times 1 = 1.000$

$0.05 \times 1 = 0.125$

$\underline{7.000}$

$\underline{0.375_{10}}$

$(7.000_0 + 0.375_{10}) = 7.375_{10}$ ✓ (1mk)

b) It is easy to develop devices that can understand binary language than to develop devices that understand the natural language. ✓ (1mk)

10.

- i) Buffers are temporary holding place that may be part of CPU or built in an input or output device. (1mk)
- ii) An accumulator – holds the results of the last processing step of the ALU.
- iii) Cache memory – allow the processor to access data and instruction even move faster than it would have taken to fetch it from relatively slow DRAM. (1mk)

11.

➤ The target audience-the audience e.g. users, management have varied output requirements. (1mks)

- i) The frequency of report generation- some reports are required daily, others monthly or periodically. (1mks)

12.

- ii) Graphic refers to non-text images generated by a computer e.g. drawings, photographs e.t.s (2mk)

- iii) Microsoft chip Gallery ✓ ½ mk

➤ A scanner ✓ ½ mk

➤ Drawing using drawing tool.

13.

- i) If returns a specified value if a condition is evaluated as four to be true and another value if false. (1mk)
- ii) Count if – count the number of cells within a specified range that meet the given condition or criteria. (1mk)
- iii) Sum if – it add value in the cells specified by a given condition or criteria. (1mk)

14.

- i) A form enables the user to view and make entries into an underlying table more easily. (2mks)

- Columnar ✓ ½ mk
- Tabular ✓ ½ mk
- Data sheet ✓ ½ mk
- Justified ✓ ½ mk

15.

- Tracking refers to changing the visual denseness or openness of characters in a line which kerning is fixing particular pairs of letters that are too close or too far apart from each other such as to i.e W O etc (2mks)
- Stroke is used to apply line style which fill is used to fill the object with a base group colour

SECTION B

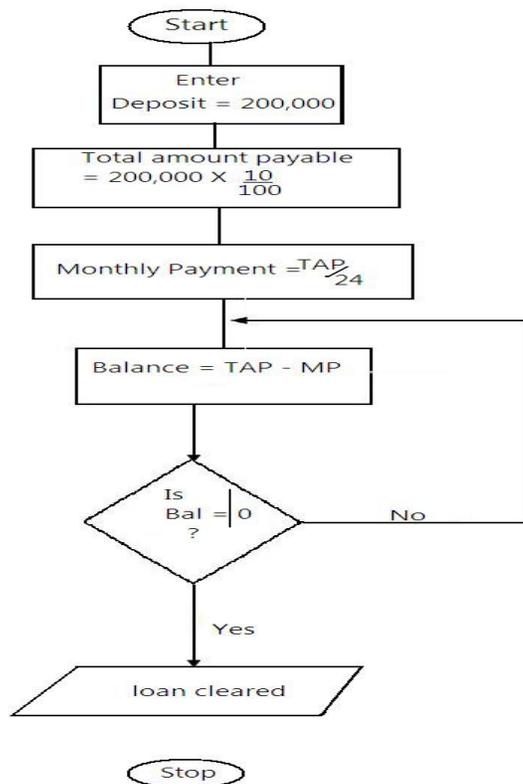
16

(a)

- i) (i) Structured programming is a procedure programming language other make it possible to break a program into components called nodules or sub routes
- ii) (ii) A constant is a value that remains the same (does not change) during the exertion of a program
- iii) A variable is a value that keep changing during the exertion of a program (1mk)

(b) Dummy data are the data that are randomly picked to be used for testing whereas real data are the actual data that can be used in the day to day running of the system

(c) P10



START

16.C Start

Print "Enter the loan amount 200,000"

Input 200,000

Monthly repayment = $200,000/24$

Loan balance = Loan Amount-Monthly repayment

If loan balance = 0 THEN

Print "Loan cleared"

ELSE

Loan balance = Loan balance-Monthly repayment

END IF

17. STOP

- i) Making illegal copies of copy righted software information or data (1mk)
- ii) Industrial espionage – spying in your computer to get information that you can use to counter finish a competitor (1mk)

(b)

- i. (i) Password protection – A password to open or exit the database file is set for any user who wishes to do this action (2mks)
- ii. (ii) Data encryption – If the database is to be sent electronically encryption secures the data from un authorized access others can be (2mks)

- User and group permission to users on data base object such as queries form and reports
- User level security – This feature is used to assign permission to users in order to limit user access to certain database object

(c) Network operating system enables the exchange of data in a network as well as providing data security (2mks)

(d) Repeaters receive signal from one segment of a network cleans it to remove distribution boosts it and then sends it to another segment whereas routers interconnects different networks and directs the transfer of data packets from source to destination

(e) Teach the students or learners (2mks)

- Set examinations

- Impact practical skills to learners (3mks)

18.

(a) Command line interface – The user interacts with the computers by typing a command at the prompt found on a command line (2mks)

- Menu driven interface – Provides the user with a list of options to choose from (2mks)
- GUI – This types represent command as small pictures on the screen called icons (2mks)

(b) Lab should be

- well ventilated
- Burglar proof
- Spaces enough
- Free from dust and smoke etc (4mks for any four correct answers)

(c)

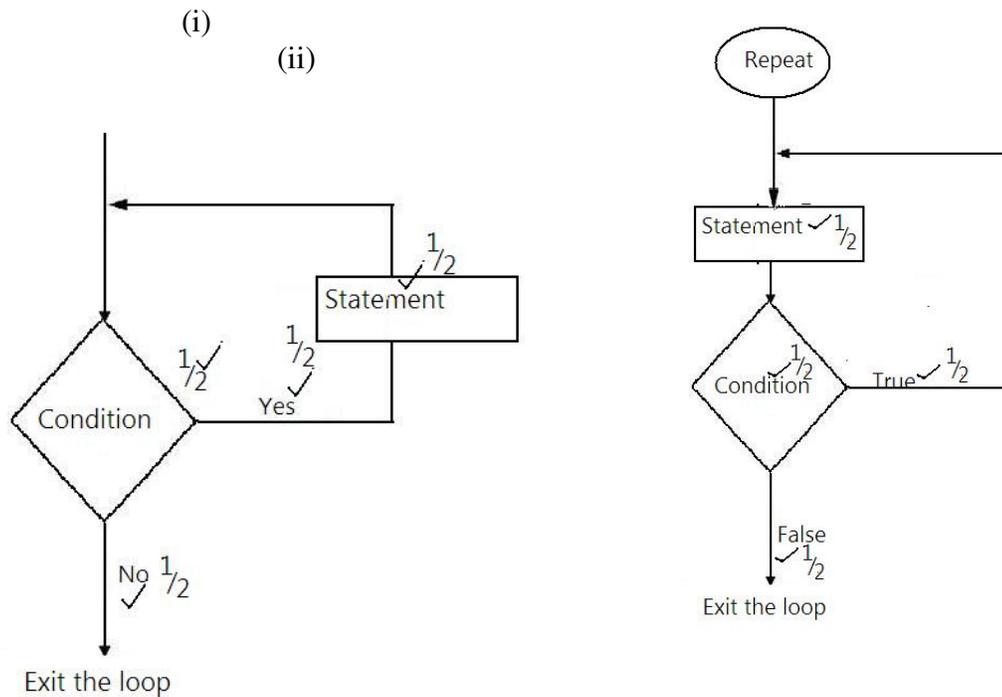
- System administration
- System analyst
- Programmer
- Technician (3mks for any three correct answers)

➤ Computer operator etc

- (d)
- i) Video conferencing refers to the use of computers digital video camera audio computing equipment and communication networks to enable people in different locations to see and talk to one another (1mk)
telecommunicating on the other part is a term used to refer to a situation where an employee works at home using a computer connected to the work place. (1mk)
 - ii) (i) It help to reduce unnecessary travel to the place of work (1mk)
(ii) Reduces travel expenses and less stress due to commuting inconveniency (1mk)

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- (a)
- i) In sequential files organization files are accessed in order sorted using a key field whereas in serial file organization files are accessed one after another but they are stored at random(not sorted) (2mks)
 - ii) In random file organization records in a file are stored randomly but accessed directly whereas Index sequential is similar to sequential file organization only that index is used to enable the computer to locate individual record on the storage media (2mks)
- (b)
- i) In batch processing ,data is accumulated as a group (batch) over a specified period of time, eg. Daily, weekly, monthly etc. (2mks)
 - ii) In a reel time data processing computer processes the incoming data as soon as it occurs up –dates the transaction file and give an immediate response that world affect the event as they happen. (2mks)
- (c) Undo – This is a command used to cancel the operation that has just been processed (2mks)
Redo – This is used to reinstate the command that was cancelled (1mk)
- (d)
- Expert system
 - Diagnosis
 - Keep patients record
 - Used in hospital for stock control
 - Use to manage finances
- (3mks for any three correct answers)
- (e)
- Diploma in ICT
 - Certificate in ICT
 - Diploma in computer science
 - Certificate in computer science
- (2mks for any two correct answers)



b. Information is a software that

- i) Information system is an arrangement of people data processes and information that work together to support and improve the day to day (1mk) operation in a business and the decision making whereas a system is a set or organized components which interact in a given environment and within a specified boundary to achieve collective goals and objectives (1mk)
- ii) Hard systems are systems whose goals and objectives are clearly defined and the out comes from the system processes are predictable and can be modeled accurately (1mk)
Soft systems are the human activity systems as their boundaries keep changing and the goals and objectives are conflicting (1mk)

(c)

- Problem recognition and definition
- Information gathering
- Requirements specification
- System design
- System construction (coding)
- System implementation
- System review

(Award 1 mark for each correct answers maximum of 7marks)