

# FORM FOUR CLUSTER KCSE MODEL 2

## COMPUTER PAPER 1 ANSWER

### SECTION A (40 Marks)

1. (a) control

- To read and interpret program instructions
- To control flow of information to and from all the components of the computer.
- To direct the operations of the internal processor components
- Fetching of instructions/data from devices

(b) storage

- store processed data/information
- store data waiting the processing

2. • Provide backup source of power to computers in cases of main power source failing.

- Provide stable power to computers in situation power is always fluctuating.

3. • Natural disasters- Backups/installing of fire extinguishers

- White –collar crimes- Passwords/Antivirus programs/copy right laws/reinforce the computer room security.

- Vandalism and carelessness-Backups/Human security/secured rooms/updating antivirus/avoid downloading programs you not sure of.

4. (a) Indenting

- Moving a sentence or a block of text a fixed distance away from the margin using the tab key

(b) Alignment

- The arrangement of text relative to the left margin, Centre of page or the right margin

(c) Word wrap A feature in word processing that enables the word being typed in a line and does not fit on the line

margin to be moved automatically to the next line

5. (a) State a retail system that she should acquire. (1 mark)

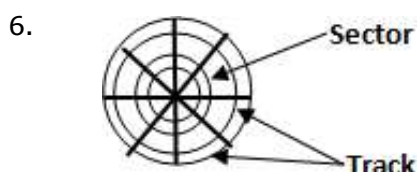
- Stock control system
- Retail Management system
- Point of sale Management

(b) State two input devices that are used in retail systems. (1 mark)

- Keyboard
- Scanner
- mouse

(c) Apart from enhancing the speed of operation, state two other benefits that Okwiri will gain from using such a system. (2 marks)

- High level of accuracy
  - Decision making process is enhanced/timely decisions are made
  - Improved record keeping
  - Diligence – can work 24/7, does not get tired etc
- NB: Do not accept answers like efficient, effective – they are too general. Go for specifics



Shade and label:

(a) a sector (1 mark)

(b) a track (1 mark)

7. • Low level languages are machine oriented and therefore they are not portable also known as machine languages/assembly languages
- High level languages are close to human languages as they are easy to read and understand even by people who are not experts in programming, they are meant to solve a specific problem and in five groups (3GLs,4GLs,5GLs OOPS AND Web scripting languages

## 8. A B C D E F

1 Month Jan. Feb. Mar. April. Total

2 Fees 460 460 460 460

3 Food 300 350 305 270

4 Electricity 100 100 100 100

5 Fuel 150 150 150 150

6 Transport 380 270 150 300

7 Total

(a) Write down the data type that is stored in cell C5. (1 mark)

- value (b) What cell contains the data item representing transport for the month of February? (1 mark)
- C6 (c) Write down the formula that may be used to compute the total in cell F6. (1 mark)
- =sum(B6:E6) or =(B6 +C6+D6+E6)

9. (a) Magnetic Ink Character Recognition (MICR) (1 mark)
- Are devices used to read characters written using magnetic ink example used in reading cheques

at the bank

(b) Optical Mark Reader (OMR) (1 mark)

- Optical scanners use light to read presence or absence of data done through shading on special forms (OMR forms).

For reading multiple choice options in form like KCPE examination, lotteries

10. (a) Describe the term data integrity. (2 marks)

- Refers to the accuracy and completeness of data entered in a computer or received from the information system

(b) State four situations in which data may lose integrity. (2 marks)

- During data entry and there are no validation rules to control data
- During data entry and data is misread
- Technical threats like malware and power surge can change data
- Failure to use devices that capture data directly.

11. • Have the ability to perform tasks that are unpleasant, dangerous or complex and tedious to assign to human beings

- Are more accurate

- Are diligent, i.e. can work without getting tired etc NB. Do not accept answers like effective, efficient

12. (a) Name the two files commonly used in mail merge. (1 mark)

- Data file/Address file
- Main file

(b) Name and explain the two types of drop caps. (2 marks)

- Dropped: a large capital letter at the beginning of first line or more in a paragraph and occupies a few lines below the first. In dropped the

Drop Cap character is wrapped around the lines it occupies.

- In margin: a large capital letter is placed vertically along the lines it occupies below. NB. Accept illustrations



13. • Run the inventory systems accurately  
• Enhance communication thro Networking the operations  
• Accurate Navigation of the ships as well as keeping database for the firm NB.

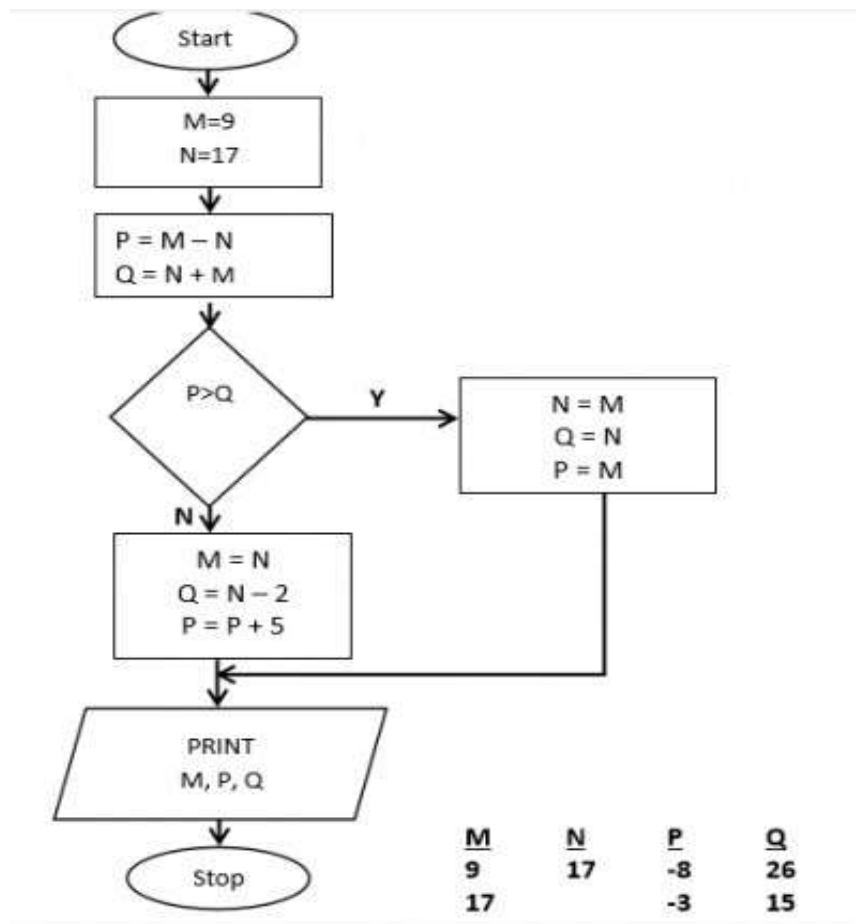
Avoid statements like efficiency, effective etc. these are too general. Look for specific terms.

Award marks for full mention of ICT advantage + shipping control.

14. • Network administrator: setting up the network configuration, troubleshoot, setup new users/equipment etc
- Database administrator: Helps to design/create and managing the entire database management system
- Computer operator: involved in daily running of the system like input of data, printing reports etc
15. (a) State two advantages of this approach. (2 marks)
- Timely production of reports for decision making
- Work can be done in a batch

## SECTION B (60 Marks)

16.



**NB: Candidates should show a dry run. 1 mark for dry run and a mark for each correct answer**

i. Determine the values of M,,P and Q (4 marks)

M = 17

Q = 15

P = -3

ii. Name the control structure used in the above flowchart. (2 marks)

• IF.....THEN... .. ELSE...

iii. Write the pseudo code for the above flowchart. (9 marks)

```
Start
M=9 N=17
PRINT M, P, Q
P>Q
P = M - N Q = N + M
N = M Q = N P = M
M = N Q = N - 2 P = P + 5
Stop
M N P Q 9 17 -8 26 17 -3 15
```

Start 1 mark

Initialize M=9, N=17

1 mark Compute

P = M-N, Q=N + M

1 mark IF P > Q

THEN Set N = M, Q = N, P =M 2 marks

ELSE

17. (a) A Principal keeps the following student details in a database: Name, Address, Admission number, Date of birth, Marks scored, Fees paid.

(i) Name the most appropriate primary key. Give a reason. (2 marks)

• Admission number

• Reason: No two students can have the same admission number

(ii) For each item in the student's details above, indicate its most appropriate data type as used in the database. (3 marks)

• Name-Text

• Address- Text

• Admission number- Number or text

• Date of birth- Date

• Marks scored- Number

• Fees paid- currency or Number ½ mark \* 6=3marks

(iii) Explain why input screens are better data entry designs than entering data directly to a table. (2 marks)

- They enable easy and accurate data entry by use of controls,
- Forms can combine several tables/queries together enabling speedy data entry
- Forms have interactive elements/ buttons hence making them easy to use b.List

two career opportunities associated with databases. (2 marks)

- Database Administrator
- System programmer
- Systems analyst
- Data manager

(d) Differentiate between:

(i) Mouse pointer and insertion point. (2 marks)

• Mouse pointer is a visible indicator displayed on a computer screen while the insertion pointer is a point where the next characters typed from the keyboard will appear on the display screen.

(ii) Differentiate the following terms as used in database design (2 marks) Modules and Macros

- Module: The visual basic environment that consist of a collection of declarations and procedures used to automate other database objects
- Macro: Are used to automate some operations such as displaying a startup form in Access

iii) Relation and Relationship Relation is a table while relationship is a n association between two or more relations/tables

NB. For this question award full or zero

18. (a)The following are some of the phases in the systems development life cycle (SDLC): system analysis, system design, system implementation, system review and maintenance. State four activities that are carried out during the system implementation phase. (4 marks)

- Staff training: train the staff on how to use a new system through manuals
- File conversion: transfer data from old/existing files to new system
- Changeover strategy: this is the plan on how to move from old system and start using a new system.
- Security control measures: system developer ensures that security features built in the system are properly configured during the implementation stage
- Testing

(b) Give three reasons why system maintenance phase is necessary in SDLC. (3 marks)

- To ensure that the system objectives are always met.
- To correct any error that may be detected.

- To adjust the system to any new requirements from the users

(c) State two instances where observation is not a viable method of gathering information during system analysis stage. (2 marks)

- When the concept of simple for the developer to understand
- The firm having many branch scattered in wide areas
- When participants are aware that they are being observed and may therefore not behave naturally.

(c) Various considerations should be made during input design and output design. State two considerations for each case. (4 marks)

- Input design considerations are: colour of the interface, Size of the form to be legible enough, alignment of objects on the form
- Output consideration: Target audience, The frequency of report generation, quality and format of information

(d) State two reasons why an organization may use other strategies of software acquisition other than developing their own. (2 marks)

- They are thoroughly tested
- Organizations lack real experts to develop the system
- Acquired software's tend to perform a variety of tasks.

20. (a) List three advantages and three disadvantages of wireless communication over wired communication. (6 marks)

Advantages

- More flexible in operation as compared to bounded i.e. A user can move around with a wireless gadget
- Can cover areas where laying infrastructure would be a challenge
- Can cover large geographical areas
- Disadvantages
- Security issues – easy to hack, eavesdrop etc as compared to bound.
- The initial cost is very high due to certain infrastructure
- Can be impaired by a number of factors like, rain, current etc as compared to bound

(b) Describe the following signals and state where each is applied in network communication: (4 marks)

(i) Analog;

- Continues signal/ waveform in nature widely used in radio broadcasting

(ii) Digital.

- Discrete in nature/operates in the series of 1s and 0s widely used in wireless broadcasting e.g Dstv NB



. Accept illustrations and award full marks

(c) Name the two types of coaxial cables. (2 marks)

- Thinnet coaxial cable also known as 10BASE2
- Thicknet coaxial cables also known as 10BASE5 No description required for this question

(d) (i) Define the term network protocol. (1 mark)

- The set rules and procedures that govern communication between two different devices or computers

(e) List four internet protocols (2 marks)

Hypertext Transmission Protocol - HTTP

Transport Control Protocol - TCP

Internet Protocol Simple Mail Transfer Protocol - SMTP

File Transfer Protocol

Internet Control Message protocol - ICMP User Datagram Protocol - UDP

Post Office Protocol - POP