
KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

FRIENDS SCHOOL KAMUSINGA
COMPUTER STUDIES
PAPER 1
MARKING SCHEME

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FRIENDS SCHOOL KAMUSINGA KCSE TRIAL AND PRACTICE EXAM 2016
COMPUTER STUDIES – PAPER 1
MAKING SCHEME

1. – Monitor $\frac{1}{2}$
 - System unit $\frac{1}{2}$ mark for each correct answer max (2mks)
- Key board $\frac{1}{2}$
 - Mouse $\frac{1}{2}$
2. a) A program which is used to gain illegal access to a remote system to monitor or track the operations taking place
 - b) - offshelf – from vendors shelf
 - In house developed / tailor made
 - Downloading freeware $\frac{1}{2}$ for any two correct
3. Size is continuously reducing though not affecting the processing power (1mk)
4. a) impact – printing mechanism / head gets into physical contact with printing paper
Non impact – printing mechanism / head doesn't get into contact with paper (1mk)
 - b) MICR – Magnetic Ink Character Reader – scans characters printed in magnetic ink.
- OMR – Optical Mark Reader – recognition – scans source documents prepared using optical marks
5. a) Webpage – a page in a website (1mk)
 - b) Blog – a webpage which enables one to post or submit his or her personal details to a website; so that the details can be accessed from the website. (1mk)
 - c) Hyperlinks – text or graphic which opens another webpage or website when clicked (1mk)
 - d) Webportal – a website that function as a point of access to information on the World Wide Web.
6. – Data creation
 - Transmission
 - Data preparation (transcription)
 - Media conversion
 - Input validation $\frac{1}{2}$ a mark for each correct answer max (2mks) order to be maintained
7. Trouble shoots hardware or S/W faults in a computer and fixes the faults.
8. a) DTP – has several design templates for various publications
 - Is more powerful in manipulating graphics / texts
 - Enables formatting & manipulation of individual text & frames separately
 - Enables complex document format printing ($\frac{1}{2}$ mark for every correct point)
 - b) i) Kerning – fixing visual denseness of pairs of character in text
 - Tracking – spacing between characters in text
 - Margins – Space around the text in the four edges of a document.
 - Column guides – non printable guides for columns layout
9. Defragmentation – rearranging parts of files to consolidate scattered files on the surface of a disk into contiguous sector (1mk)
Partitioning – dividing a physical disk into several logical drives (1mk)
10. Headache – adjust screen brightness accordingly
Back & neck pain – Monitor should have a swivel base
 - Use seats with backrest for upright posture
 - Seats height be equal to screen height(any correct two points max 1mark)
11. Syntax – set of rules for a certain programming language (1mk)
Semantics – vocabulary used in a language (1mk)
12. a) – System flowchart

- Entity relationship model
 - Data flow diagram any correct two 1mk each 2mks max
- b) - To enable correction of mistakes from previous phases
- provides reference for the next stage of development
 - serves as a reference for future modification
- (1mark for each correct max 2marks)
13. Router – subdivides a large LAN into several segments to reduce overwhelming the network
- Determines the most appropriate path for signal to the recipient
 - Gateway – connects a LAN to a wide area network e.g. the internet
14. Baseband signal
- Digital signal transmitted through a digital channel without modulation (1mk)
 - Broadband – a group of analog signals transmitted through a common channel but with varying signal frequency (1mk)
15. Simulation – process of creating a model of a real object, concept in order to experiment the behavior of a real object.

SECTION B

16)a) Start ½ mark

½ mark - Display “enter salesman name, sales, terms of sale”

½ mark - Enter salesman name, sales, terms of sale

If (sales >= 20,000) then

Sales commission = 0.1 x sales

2 marks Else

Sales commission = 0.04 x sales

End if

If (terms of sale = “cash”) then

Cash commission = 0.05 x sales

2 marks Else

Cash commission = 0

End if

-Total amount = sales + sales commission + cash commission ½ mark

-Display salesman name, sales, sales commission, cash commission, total amount ½ mark

Stop - ½ mark

17. a) 747_8 X_2

$$1,1110,0111_2 \longrightarrow 1147_{10}$$

$$\longrightarrow 1E7_{16}$$

b) $6_{10} \longrightarrow 110_2$

Ones compliment of $110_2 \longrightarrow 001_2$

c) – Not prone to errors

- Simple system to use 2mks max

d) Loss of signal strength along a transmission channel after a signal propagates a long distance.

e) Single mode – type of a fibre optic cable in which only one signal can be propagated through the channel at a time (2mks)

Multi – mode – a type of fibre optic cable in which several signals can be transmitted through the channel at a time (2mks)

f) Convert 7.125_{10} to binary $7.125_{10} X_2$

2	7
2	3 rem 1
2	1 rem 1

$$\begin{array}{rcl}
 & | & 0 \text{ rem } 1 = 111 \\
 0.125_{10} & \times_2 & \\
 0.125 \times 2 = & \rightarrow & 0.25 \text{ carry } 0 \\
 0.125 \times 2 = & 0.5 \text{ carry } 0 \\
 0.5 \times 2 = & 1.0 \text{ carry } 1 \\
 & = & 0.001 \\
 \therefore 7.125 & \rightarrow & 111.001_2
 \end{array}$$

18. a) i) – labels

- Values
- Formulae
- Functions

½ mark for each – max 2mks

ii) - Performs automatic recalculation

-Can be formatted for good appearance.

-Produces neat work

-Inbuilt functions to auto mate arithmetic operations

iii) Set of step by step instructions on how to generate a graphical .chart from selected data in a worksheet

iv) a) change – replace a word with a spelling error with the given suggestion

b) Ignore once – leave a word with a spelling error without making any change

c) Add – used to add a new vocabulary in a list of suggestions

v) A document with predefines formats and styles from which another document can be created

19. i) –E learning

- Simulation to demonstrate scientific concepts

- Research on the internet

- Computer aided learning (CAL) and computer aided teaching (CAT) (1mk for max of 3mks)

ii) a) Pressure pads (1mk)

b) – Cheaper than modifying the real object / system

-Enables a detailed insight to a problem

- Less dangerous (2mks x 3)

iii) Software engineer – designs the logic of various programs for performing various tasks (1mk)

Computer engineer – designs new hardware devices e.g. processor (1mk)

iv) – Modifying the website

-Updating the website

-Troubleshooting and adding information to a website (1mk x 3)

20. i) – Database management system (DBMS)

- User programs

- Database (1mk x 3)

ii) a) Attributes – facts about an entity whose data is stored in a database (1mk)

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 (1mk)

c) Macro – A database object used to automate execution of some tasks in database (1mk)

iii) – Relational – data is stored in form of records in tables / relations which can be linked to other tables.

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

- Network model – these are many / multiple links between various data items in various files, hence forming network of links. (1mk x 3)

iv) - To avoid unnecessary data duplication

- To make updating of data easier

- To avoid data inconsistency