**CHAMPIONS JET EVALUATION TERM ONE 2019**

***Kenya Certificate of Secondary Education (K.C.S.E)***

451/1

**COMPUTER STUDIES**

PAPER 1

March 2019

TIME: 2 1/2 HOURS

**MARKING SCHEME**

**SECTION A (40 MARKS)**

|  |  |  |
| --- | --- | --- |
| **NO** | **QUESTION / ANSWER** | **SCORE REMARK** |
| **1** | ***1.Anthony a student at Mireri Technical College defines a computer as “an electronic device which accepts, processes data and produce information depending on its decisions.” Was this student*** ***right? Explain your answer.**** No 1/2 computers cannot1/2 make their own decisions
 | **1mk** |
| **2** | ***Output from the computer can normally be in several forms. Give the difference between Soft copy and Hard copy***. * Soft copy output that is intangible e.g. sound light and on screen.
* - Hardcopy —output on hard /tangible materials e.g. papers and microfor m
 | **2mks** |
| **3** | ***Define the program documentation**** Tutorials, instruction and reference information provided to explain how to install and use, and maintain software
 | **2mks** |
| **4** | ***State any two types of documentation created in system development**** Programmer oriented
* User oriented
* Technician oriented.
 | **Any two @ 1mk** |
| ***5.*** | ***What is data security?**** Protection of programs and data in computers and communications systems against unauthorized modification, destruction, disclosure or transfer whether accidental or intentional.
 | **1mk** |
| ***6.*** | ***Explain any two ways in which computers have been made user-friendly for persons that are physically challenged.****Use of voice recognition devices for the handicapped**Use Braille**Use of magnifies to enlarge output* | **Any two explained @ 2 max 4****No 1mk** |
| ***7*** | ***The meaning of the following terms as used in computer data transmission.******(a) Simplex transmission.**** Date is transmitted in one direction only.

(b***) Half duplex transmission**** Data is transmitted in two directions but only in one direction at a time.

***(c) Full duplex transmission**** Data is exchanged between two devices in both directions simultaneously.
 | **@1mk each** |
| ***8*** | ***What are the four major parts of a database system?**** Data
* Hardware
* Software
* Users /liveware
 | **1 @1mk each** |
| ***9.*** | ***Give the difference between machine language and assembly language**** Machine language is the computers own binary base language.
* Assembly language is a low level language consisting of mnemonic codes and symbolic addresses corresponding to machine language instructions.
 | **@ 2mrks both must be right to score** |
| ***10*** | ***Define the term robot.**** Is a computer controlled device that mimics human intelligence in carrying out routine task
 | **@1mk** |
| ***11*** | ***Differentiate between a drive and a device driver.**** A drive is a device that is used to read or write information on a computer storage, while device drive is software instructions that enable communication between computer and other devices
 | **@2mrk both must be right** |
| ***12.*** | ***(a) Differentiate between an electronic spreadsheet and the traditional analysis sheet***Manual spreadsheet are paper and pen spreadsheets in which error correction isnormally hard while electronic spreadsheets are computer base spreadsheets which are easier to work with. ***(b) Explain how you would change the name of a worksheet in Microsoft excel***Right click on the name tab of the worksheet to be renamed, select rename then type the new name  | **@2mark both must be right****Each step @1mrk. There must be flow** |
| ***13.*** | State **three** reasons why it is important observe safety precautions and practices in a computer laboratory.* **To product the computers**
* **To protect the users**
* **To provide conducive environment for computers and users.**
 | **@1mk each****Accept any precaution that protect the user or computer and link.** |
| ***14*** | ***(a) List two examples of desktop publishing softwares.**** Quarkxpres
* PageMaker
* Adobe in design
* Corel Ventura
* Sent page plus
* Adobe PageMaker
* Microsoft publisher
* Corel draw

***(b) Differentiation between save and save as as used in most windows*** ***applications.***Save command is used to save changes in an already saved document.Save as command is used to save a new unnamed document or to save an existing document using a new name.  | **Any 1st 2 @ 1mk****@2marks both must be right** |
| ***15.*** | ***Define the following internet related terms.******a) Internet protocol***Set of rules that govern the use of the internet.***b) Search engine***Computer software that compiles list of documents on the World Wide Web and their contents.***c) Browser***Program that allows a computer to locate, down load and display. Document containing text graphics sounds videos, animation located on a computer network.***d) E- learning***Learning over the internet.***e) Uniform resource location***.A method of naming files or place on the internet. | **@1mk** |
|  | ***SECTION B.***  |  |
| ***16.*** | ***16. a. Define the term control structure. (2mks)***Are block of statements that determine how statements are executed.***b. Study the following pseudocode and answer the questions that follow***.***Start*** ***N = 0******X = 0******While N < 3***  ***Repeat***  ***X = X + 1*** ***Until X = 2*** ***N = N + 1******End while******Stop***1. ***Determine the value of N and X. (5mks)***

X = 5, N = 41. ***Draw a flowchart of the above pseudocde. (8mks)***

N = 0X = 0N <3Y X = X + 1N >=2Y N = N +1 | Must show the working each stage @1mk. Else only answer shown award 1mkInitialization symbol. 1mkWhile 1Process 2Until 1Start 1Flow 1Logic 1 |
| ***17*** | ***(a) State any three reasons why people may resist the introduction of computers at their place of work. (3mks)**** Job replacement - brings about elimination of jobs.
* Job displacement - process of replacing manpower with computerization
* Computer illiteracy - Lack of computer knowledge.
* Resistance to change — People want to continue working manually resist new and advanced methods.

 ***(b) State two operational methods of an organizational ensuring the security of data. (2mks)**** Password control
* Use of antivirus
* Use access levels —filters information that one can view.

 ***(c) Explain the components of an expert system. (6mks)**** Knowledge base: holds information about a particular subject
* Inference engine: controls the search for information in the knowledge base
* User interface: is the display screen that enables the user interact with system

***d. Explain the role of feed back in a system. (2mks)**** Helps the system to adopt to changes in the environment in order to give the expected output.
* Helps to see whether the system is achieving its objectives***.***

***e. List two theories of system development. (2mks)**** Traditional approach
* Rapid application development
* Structured approach
 | **Any 1st 3 @ 1mk each****Any 1st two @ 1mk****1 @ 2mk award 1mk for state****1st @ 2mks****Any 1st 2 @ 2mks** |
| ***18*** | ***a Briefly explain the following terms as used in spreadsheet (4mks)**** Cell — An intersection between a row and a column
* Range — A rectangular arrangement of cells specified by the address of its top left and bottom right cells, separated by colon (:)
* Value — Numbers that can be manipulated mathematically.
* Function: Inbuilt predefined formulae that the user can quickly use instead of having to create a new one each time a calculation has to be carried out.

***b. List three paragraph formatting features of word processors. (3mks)**** Indentation
* Drop cap
* Alignment
* Line spacing

***c. Explain the difference between the printing of multiple pages and multiple copies. (2mks)**** Printing more than one page
* Printing several copies of the same page

**d. Distinguish between a worksheet and a work book (2mk)*** Work sheet is the working area in Microsoft Excel program. Work book is a collection of worksheet.

***e. Explain four examples of action query. (4mks)**** make table query: used to create query from existing table
* Delete query: used to automatically delete record or records from the source data.
* Append query: used to automatically add a record or records to a table
* Update query: used to automatically update records
 | **Each @ 1mk** |
| ***19*** | ***a .Explain any three benefits of using ATMs in banking industry. (6mks)**** Can be accessed at any branch
* Easy transaction and convenient as they can be used to pay bills
* No much queuing as in case of bank clarks
* Confidentiality of transaction

***b. Explain two advantages of advertising on web instead of using an advertising brochure. (4mks***)* Can be updated faster
* Provide interactive communication as compared to brochures that are one way
* Have wide coverage
* Possible use of multi media

***c. Mention any three ways of ensuring efficient back up of data. (3mks)**** Making regular backup
* Backup on removable media
* Keeping backup media in separate location
* Setting up automatic backup intervals

***d. Give any two benefit of hacking to an organization’s computer system. (2mks)***reveals the weaknesses of the systemidentify areas that need patchingmay explain leakage incidences of data | **Any 1st three explained @ 2mk****Any 1st 2 explained @ 2mks****Any 1st 3@1mk each** |
| ***20*** | **a. Perform the following binary arithmetic.** **i. 10111012 + 1011002 - 11111012 (4mks)*** 1011101 + 101100 = 10001001……….2mks
* 10001001 – 1111101= 00001101……..2mks

**ii. 5** $^{6}/\_{8}$ **- 8** $^{3}/\_{12}$ **using ones complement. (4mks)**5.75 – 8.25101.11 – 1000.01…….1mkOnes complement of 1000.01……0111.10…….1mk101.11 + 0111.10……..1101.11………1mkBack to ones complement 0010.01…..1mk**b. Differentiate between data validation and data verification.(2mks)**data verification is the checking data input manually comparing the input with source data, while data validation is the checking of data against predetermined data limit.***c. List three factors that determine the methods of data access in a computer. (3mks)**** The amount of data to be accessed at a time
* The size of the file to be accessed
* The type of storage media

**d. Give any two characteristics of mater file. (2mks)**Contain permanent data Always updated by transaction file | **Both must be correct to score** |