

**TERM TWO EXAMINATIONS**

**COMPUTER STUDIES**

**FORM THREE**

**MARKING SCHEME**

**1. Explain the term procedural language as used in computer programming**

- This refers to a programming language that uses specified steps and procedures within its programming context in order to compose a program that solves a particular problem

Award 2mark max 2

**2. List three symptoms of a computer infected with a computer virus**

- Unfamiliar graphics or quizzical messages on the screen
- Program taking longer than usual to load
- Computer fails to boot
- Programs and files disappear mysteriously
- System crashes or hangs up
- Executable files changing size with no obvious reason
- Less memory available than usual

Award 1 mark each max 3

**3. Given that  $1011_2$  is a negative number workout its three possible decimal equivalent**

Prefixing a sign bit (1)011 = -3	1011 0100 = -4	$\frac{1-}{1010}$ 0101 = -5
Ones compliment	Twos compliment 1011	

Award 1 mark each max 3

**4. Describe three ways of deleting a line of text in a Microsoft Word document.**

- Place the cursor at the beginning of the line and press the delete key to erase characters from left to right
- Place the cursor at the end of the line and press the backspace key to erase characters from right to left
- Highlight the line of text and press the spacebar

(Award 1 mark each max 3)

**5. Name three types of graphical objects that can be inserted or used in a Microsoft -Word document**

- Screenshots

- Shape
- SmartArt
- Pictures downloaded from the internet
- Pictures from the computer gallery

Award 1 mark each max 2

**6. Briefly describe two features of Random file organization method.**

- Files are accessed directly regardless of how they are saved
- Files are stored randomly-this means that data is not sorted in any order

Award 1 mark each max 3

**7. List three human features used by Biometric systems installed in a computer to authenticate users.**

- Fingerprints
- Voice
- Face
- Irish

Award 1 mark each max 3

**8. Describe three ways in which human beings issue commands to the computer**

- By keying commands at the command prompt using a keyboard
- By selecting commands from a menu using pointing devices such as mouse and trackball
- By issuing commands through the voice using voice recognition devices such as the microphone
- Clicking commands represented using icons

Award 1 mark each max 3

**9. Give three file management tasks that would be carried out by an operating system.**

- Sorting a file
- Creating a file
- Renaming a file
- Copying a file
- Moving a file
- Saving a file
- Deleting a file

Award 1 mark each max 3

**10. Collins connected new multimedia speakers to his computer and tried to play his favorite music CD, but no sound came out. Suggest two problems that might have occurred**

- Lack of sound card
- Lack of multimedia software
- The port of connection may be faulty
- The audio cables used may be defective
- Media file format in the CD not supported

Award 1 mark each max 2

**11. State how the following printing problems can be resolved**

- (a) Paper jam
- Remove the paper that is stuck in the runway gently

Award 1 mark max 1

- (b) Lack of communication between the printer and the computer

- Reinstall the printer
- Select the correct printer
- Ensure that the printer is on and connected appropriately

Award 1 mark each max 2

12. Give four benefits of computerizing organization filing system

- Offers fast access and retrieval of data
- It enhance data integrity and reduces data redundancy
- It is much easier to modify and update information
- Enhance security of data if proper care is taken
- Information take up less space compared to manual filing system

Award 1 mark each max 4

13. Explain the following measures against unauthorized access

(a) Security policy

- These are rules that have been developed by relevant authorities to govern the handling data so as to keep it safe from unauthorized access

(b) Security monitor

- These are hardware and software programs that monitor and keep track of all activities performed using the computer system

Award 1 mark each max 2

14. Describe two worksheet data management tools supported by spreadsheet

- Data validation tool-Putting constrains in a cell within a worksheet to restrict invalid data entry
- Sorting- Refers to arranging data in a specified order
- Filtering- A quick and efficient way of finding out and working with a sub-set of data in a list

Award 1 mark each max 2

15. What does the term gutter mean in relation to column setting in DTP

- This refers to the space in between the columns

Award 2marks max 2

16.

(a) Name three causes of syntax errors

- Misspelling of user defined words and reserved words
- Improper punctuation
- Grammatical mistakes
- Improper naming of variables

Award 1 mark each max 3

(b) Define the following terms as used in Computer Programming

i. Machine dependent

- Means that a program cannot be moved or transferred and used in another machine except the one it was designed for

ii. Bug

- It simply refers to a computer error

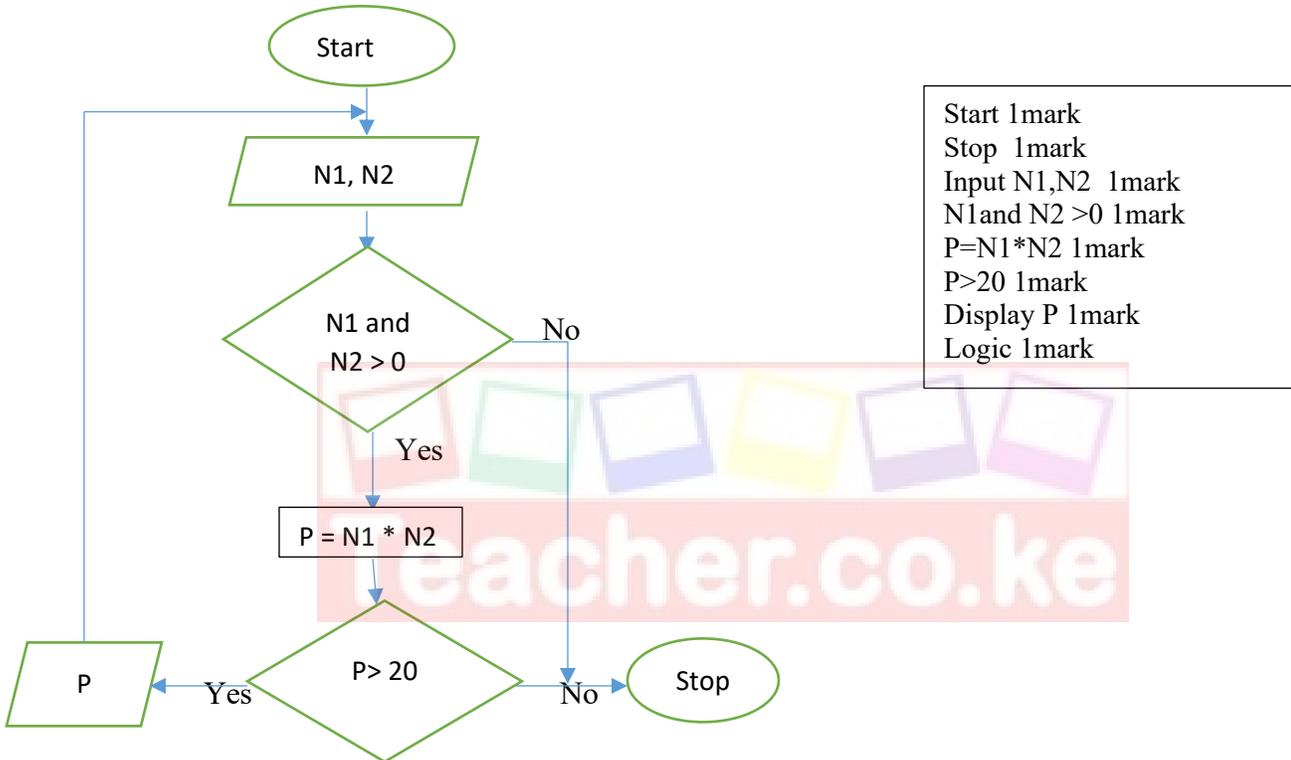
Award 2marks each max 4

(c) Study the Pseudo code below and answer the questions that follows.

Begin

Input Y, X  
 Check if Y and X > 0 Then else go to step 9  
 Multiply Y and X  
 Is product > 20 then?  
 Display Product  
 Repeat step 2, 3,4,5,6  
 Else go step 9  
 Stop

i. Draw a flowchart for the pseudo code above



17.

(a) Study the table below and answer the questions that follow

	A	B	C	D	E	F	G
1	Product ID	Product Name	Received Quantity	Sold Quantity	Balance Stock	Unit Price	Total
2	PW00012	Ball	1000	300	700	60	
3	PW00023	Ruler	200	150	50	50	
4	PW00045	Pen	130	130	0	10	
5	PW00029	Bread	400	200	200	50	
	GRAND TOTAL						

(i) Write down the formula that Calculate the balance stock

- =C2-D2

Award 2 marks max 2

Calculate the Total cost

- $=D2 * F2 / \text{Product}(D2, F2)$

Award 2 marks max 2

(ii) Given that customers who purchased Rulers were allowed 10% trade discount write a formula that would be used to get the Total cost (2mark)

- $=0.9(F3 * D3)$

Award 2marks max 2

(iii) Use named reference to calculate the Grand Total

- Rename cells (G2:G5) as total
- $=\text{SUM}(\text{total})$

Award 1 mark each max 2

(b) State two differences between DOS and Windows based Operating system

DOS	Window-based operating system
▪ Requires less memory	▪ Requires high memory
▪ Command is typed at the command prompt	▪ Command is selected on an icon on the screen
▪ Requires a screen of low resolution	▪ Requires screen of high resolution
▪ Execute faster	▪ Execute slowly

max 4

(c) State three reasons why computer technicians prefer using the command line operating system when troubleshooting a computer

- Work well with screens of low resolution
- Executed very fast
- Requires low memory

Award 1 mark each max 3

18.

(a) List two types of domain names given to institutions of learning

- .ac
- .sc
- .edu

Award 1 mark each max 2

(b) Explain the function of each button on the navigation toolbar of a web browser

(i) History

- Provides a list of sites visited by the user

(ii) Home

- Takes the user to the homepage of the web browser

(iii) Download

- Provides a list of files downloaded from the internet

Award 1 mark each max 3

(c) Peter Kenneth bought a PC for his personal use at home. He wanted to do online writing at home to earn a living but there was no internet connectivity at home. Mention three internet connectivity requirement Peter Kenneth need to consider to get full internet connectivity

- Internet service provider
- Transmission media
- MODEM
- Internet software

Award 1 mark each max 3

(d) Give three reasons to justify why companies like Alibaba, Kilimall, Jumia, Copia and Masoko prefer selling their products on e-commerce platforms.

- Provides a wide range of products to the user
- Cost effective since the overhead cost is low
- Affordable advertisement
- Flexible in terms of sales

Award 1 mark each max 3

(e) Describe three factors to consider when choosing a file organization method

- Frequency of update: A file that needs to be updated every now and then needs an organization method that will allow easy retrieval of information and ease of updating, example of such a file is the transaction file
- File access method: Definitely different files have different methods of being accessed, example a reference file is accessed using random method for easy retrieval of data.
- Cost it is essential that a cost benefit analysis be conducted because different files will require different cost
- Storage media –Different file design use different media

Award 1 mark each max 2

(f) State two challenges facing electronic data processing modes in the current society

- Security threats
- It is power dependent
- Lack of legal frameworks
- Lack of ICT knowhow

Award 1 mark each max 2

19.

(a) Convert the following numbers

i.  $7.5625_{10}$  to Binary

Whole number part

$7=111_2$  ..... 1mark

Fraction part

$0.5625 \times 2 = 1.125$  ↑

$0.125 \times 2 = 0.25$  ..... 1mark

$0.25 \times 2 = 0.5$

$0.5 \times 2 = 1.0$

$=0.1001_2$  ..... 1mark

Ans= $111.1001_2$  1mark ..... 1mark

ii.  $DDFF34_{16}$  to Binary (3marks)

D	D	F	F	3	4
13	13	15	15	3	4

1101 1101 1111 1111 0011 0100

Ans=110111011111111100110100<sub>2</sub>

- (b) Bit patterns can be interpreted in a number of different ways. A computer word contains the bit pattern 0011101110. What is its decimal value if it represents a pure binary integer

0 0 1 1 1 0 1 1 1 0<sub>2</sub>

$$\begin{array}{cccccccc} 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ 128 & 64 & 32 & 0 & 8 & 4 & 2 & 0 \end{array} = 238$$

- (c) Given that the number on the extreme left is a sign bit work out the decimal equivalent of the following binary numbers (3marks)

i. 100110101

(1)00110101-----negative number

$$2^5 + 2^4 + 2^2 + 2^0 = 32 + 16 + 4 + 1$$

Ans= -53<sub>10</sub>

ii. 010011010

(0)10011010-----positive number

$$2^7 + 2^4 + 2^3 + 2^1 = 128 + 16 + 8 + 2$$

Ans= +154<sub>10</sub>

iii. 1

Ans= +1<sub>10</sub>

- (d) Use Two complement to subtract 20<sub>10</sub> from 15<sub>10</sub> (3marks)

15 + (-20)

15=01111<sub>2</sub>

20=10100<sub>2</sub>

01011-----1c

+ 1

01100-----2c

+01111

11011

- 1

11010-----1c

00101

Ans= -5

20.

- (a) List two types of field in a database used to create relationships between multiple tables

- Foreign key
- Primary key

Award 1 mark each max 2

- (b) Describe three types of relationships used in a databases to link multiple tables

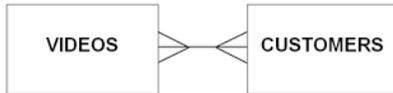
- One – to – one- This is a type of relationship where a record in one table have only one matching record in other table and vice versa



- One – to – many- Here a record in one table have several matching records in the other table



- Many to Many – For particular records in one table there are several matching records in the other and vice versa



Award 1 mark each max 3  
Accept illustrations

(c) Describe the following field data types as used in Databases

(i) Calculated (2marks)

- Data type that allows a field to store the result of an arithmetic operation generated by an expression

(ii) Attachment (2marks)

- Used to store one or more files containing, pictures, sound, videos, or word documents.

(d) Briefly describe three reasons which make microcomputers suitable for personal computing work (3marks)

They are portable

Ruggedness

They have rechargeable batteries hence can be used in areas without power

(e) List three reasons why it is important to first shut down the computer before turning it off (3marks)

To prevent data loss

To prevent damage to sensitive parts of a computer

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