**Name** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Index No**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Candidate’s Signature**\_\_\_\_\_\_\_\_

 **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**COMPUTER STUDIES**

**Paper 1**

**(Theory)**

July 2017

**2 ½ hours**

**THE SUKEMO MOCK 2017**

**Instructions to Candidates**

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. This paper consists of **TWO** sections: **A** and **B**.
4. Answer **ALL** the questions in section **A**.
5. Answer question **16** and any other **THREE** questions from Section **B**.
6. **ALL** answers should be written in the spaces provided on the question paper.
7. ***This paper consists of* 15  *printed pages***
8. ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.***

**For Examiner’s Use Only**

|  |  |  |
| --- | --- | --- |
| **Section** | **Questions** | **Score** |
| A | 1 – 15 |  |
| B | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
|  **Total Score** |  |

***SECTION A (40 MARKS)***

***ANSWER ALL QUESTIONS IN THIS SECTION***

1. Name any two home row keys (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………

1. Define the following terms in reference to computer software’s (2mks)
	1. Integrated software

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

* 1. Proprietary software

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Differentiate between complex instruction set computer and reduced instruction set computer (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. The table below consists of various devices and their respective IRQ numbers;



a) Explain why each device is assigned a unique IRQ number (2mks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

b) What is likely to happen if two or more devices happen to share IRQ numbers (1mk)

………………………………………………………………………………………………………………………………………………………………………………………………

1. (a).A computer has one floppy drive and one hard disk drive; assign the drives their respective drive letters (2mks)
	1. Floppy drive ……………..
	2. Hard disk drive…………..

(b). computer I idle but the hard disk light is blinking, indicating some activities. State two possible causes of this (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. a) Define the term blocking text as used with word processors (1mk)

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* + 1. Differentiate between footnotes and end notes (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

c) Differentiate between orphan and window as used in word processing (2mks)

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1. a) Explain how the following data can be entered on MS-excel worksheet (2mk)

|  |
| --- |
| 07257254325 |
| 0721456789 |

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Name the automatic alignment of labels when entered on Ms-excel worksheet (2mks)

………………………………………………………………………………………

1. What do you understand by the term layering as used in DTP (1mk)

……………………………………………………………………………………………………………………………………………………………………………………………….

b) What is the importance of layering? (1mk)

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1. Differentiate between data security and data control (2mks)

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10. The first column in the table below contains the formulae as stored in to the cell F10 of a spreadsheet. Enter the formulae as they would appear when copied to cell M20 of the same spreadsheet. (3mks)

|  |  |
| --- | --- |
|  Formula in F10Formul a i n F1 0 |  Formula in M20Formula in M2 0 |
| = D10\*E1 0 |  |
|  = A$25= A$2 5 |  |
| = $D$1 3 |  |

11. Explain the following terms as used in program implementation. (2 marks)

 (i) Parallel running

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 ii) Direct change over

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

12. State the stage of system development in which: (3mks)

(i) A flowchart would be drawn

…………………………………………………………………………………………………………………………………………………………………………………………………………

(ii) The programmer would check whether the program does as required

…………………………………………………………………………………………………………………………………………………………………………………………………………………………

(iii) The user guide would be written

…………………………………………………………………………………………………………………………………………………………………………………………………………………………

13. Simulation is one of the application areas of computers,

(ii) What is meant by the term simulation? (1mk)

……………………………………………………………………………………………………………………………………………………………………………………………….

 (ii) Name **two** application areas of simulation. (1mk)

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 14. a) Distinguish between Boundary and Environment in system development (2mks)

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 b) What do you understand by the term **prototyping?** (1mk)

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15. What is the importance of OSI model? (1mk)

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***ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS***

16. a) In a computer contest with 30 entries, three papers are tested and the final marks graded

 according to the average of the papers.

Draw a flowchart and a pseudocode to:

* Read a student’s name, school, and input the marks repeatedly for the 3 papers.
* Determine the student average mark
* Assign a grade to the student depending on the average mark as follows:
	+ - **Mark Grade**
		- 80 ≤ Mark A
		- 60 ≤ Mark < 80 B
		- 40≤ Mark <60 C
			* Mark <40 F
* Display the Students name, school Average Mark and the grade
* Repeat the above steps for all the 30 entries in the contest.
1. **Pseudocode (6mks)**

 **(b).Flowchart (7mks)**

((iii).The following section of pseudocode algorithm should:

* Input 500 numbers
* Generate a ratio called **k**
* Output each value of **k**
* Output how many numbers were larger than 10

**Total =1**

**FOR X=1 TO 500**

 **IF NUMBR <10 THEN TOTAL = TOTAL +1**

**K=X/NUMBR**

**X=X+1**

**OUTPUT K**

**NEXT X**

**OUTPUT X**

There are **five** errors in the above code. Locate **any two** errors and suggest corrections for them. (**2marks)**

Error1……………………………………………………………………………………………

Correction………………………………………………………………………………………

Error 2……………………………………………………………………………………………

Correction………………………………………………………………………………………

17. a) Distinguish between logical and physical computer files. (2mks)

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 (b) (i) Define the term computer ethics. (1mk)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 (ii). Give two examples to show how a person who has committed Computer crime

 can help to improve a computer system. (2 mks)

……………………………………………………………………………………………………………………………………………………………………………………………………………

(c). (i) Explain the term normalization as used in databases? (1mk) …………………………………………………………………………………………………………………………………………………………………………………………………………….

 (ii) The internet can be used to source information about emerging issues that may not be available in print form. Give two advantages and two disadvantages of information obtained from the internet. (4 Marks)

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(iii) Outline any two controllers used to connect optical or hard drive on the

 Mother board (2mk)

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 (iv). Differentiate between COM and LPT ports (2mks)

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………………………………………………………………………………………………………

 (v).List down any two tools and requirements needed during computer set up and cabling (1mk)

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18. a) Outline any 2 Examples of wireless transmission media (2mks)

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 b) Name any **two** functions of network operating systems (2mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………

 c) Study the following diagram and answer the questions that follow;

Classification of networks

According to size

A

LAN

B

C

Peer to peer networks

D

1. Name part A, B, C and D (4mks)

 A……………..

 B……………..

 C……………..

 D……………..

d) Explain how you would prepare a patch code (5mks)

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

e) Distinguish between share level security and user-level security as used in networking (2mks)

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19. (a) Describe **two** ways in which a computer can represent a positive number and a negative number. (2 mks)

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(b) A particular computer stores numbers in a single 8-bit word. How would it

represent 0.312510? (3 marks)

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(c) What is the decimal equivalent of the number 1.01112? (2 marks)

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(d) Perform the decimal subtraction 1410 - 6 10 using

(i) Regular binary; (3 marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

(ii) One’s complement. (2 marks)

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(e) .Convert 107 10 to binary using place value method (3mks)

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20. (i). Windows may experience some problems such as:

* Failure to load to operating system during booting process:
* The computer hangs (stops responding)
* Abnormal restarting
* Displaying a blue screen with a message such as fatal exception error has occurred
1. State two possible causes of the above problems.(2mks)

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(b) .Explain how the problems can be resolved (2mks)

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 (c) .Define the term interactive processing. (2mks)

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 (ii) Explain why input screens are better data entry designs than entering data directly to a

 table. (2 mks)

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(iii). List two career opportunities associated with databases. (2 mks)

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(iv) Distinguish between a table in word-processing application and a table in a database

 applications .(2 mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 (v) Name the following symbols that represent various ports found at the back of the system

 unit of the computer (3mks)



(i)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (ii)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (iii)\_\_\_\_\_\_\_\_\_\_\_\_\_\_