**Name: …………………………………………………………………Adm. No…………………**

**Index No: …………………………………………. Candidate’s Sign……………………..**

**Class :………………………………………… Date: …………………………………..**

**451/1**

**Computer Studies**

**Paper 1 [Theory]**

**August 2022**

**Time: 2 ½ Hours**

**ARISE AND SHINE TRIAL 1 EXAM**

**August 2022**

**Instructions to candidates:**

[a]. Write your name and index number in the spaces provided at the top of this page.

[b]. Sign and write the date of examination in the spaces provided above

[c]. This paper consists of **TWO** sections**; A and B**

[d]. Answer **ALL** questions in section A

[e]. Answer question **16** and any other THREE questions from section B

[f]. All answers should be written in the spaces provided on the question paper.

(g). This paper consists of 11 printed pages

(h). Students should check to ascertain that all pages are printed.

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| --- | --- | --- | --- |
| **Section** | **Question** | **Maximum Score** | **Candidate’s Score** |
| A | 1-15 |  |  |
| B | 16 |  |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |
| **Total score** | **100** |  |  |

**SECTION A [40 MARKS]**

*Answer* ***ALL*** *questions in this section in the spaces providd*

1. State **three** features of fifth generation computers. . (3 marks)

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1. Using relevant examples distinguish between a formula and function. (3 marks)

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3. A publisher intends to use a desktop publishing programme to create a publication which is to have many graphics. State **three** ways in which the graphics may be acquired for this purpose. (3 marks)

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4. The management of an organisation intends to purchase a printer. State **three** factors that they should consider during the purchase. (3 marks)

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5. State **three** reasons why it is important to define data types of fields in a database correctly.

 (3 marks)

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6. An engineering company requires a computer system to design roads and bridges. (2 marks)

Explain one suitable choice for:

(i). Output device;

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 (ii). Software.

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7. State **three** circumstance under which the use of wireless communication would be preferred in data communication. (3 marks)

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8. Headache, back and neck pain may result from the use of computers. State how each of them can be minimized. (2 marks)

(a). Headache

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 (b). Back and Neck Pain

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9. Explain the importance of each of the following in word processing:

 (i). tab stops; (2 marks)

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 (ii). Section breaks. (2 marks)

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10. State **three** problems associated with using e-mail technology for communication. (3 marks)

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11. State **two** ways in which each of the following can be prevented

(a). Software errors (1 mark)

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 (b). Computer fraud (1 mark)

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12. Differentiate between analogue data and digital data as used in computers. (2 marks)

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13. State **four** properties that an operating system displays about file. (2 marks)

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14. State the functions of each of the following keys on the computer keyboard. [2 marks]

 (a). backspace;

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

 (b). insert (ins)

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15. Give **three** file organization methods in a computer. (3 marks)

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**SECTION B [60 MARKS**

***Answer question 16 and any other three questions from this section in the spaces provided.***

16.(a). State **three** ways in which a programmer can make program code easy to follow. (3 marks)

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(b). Outline **two** disadvantages of low level programing languages. (2 marks)

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(c).Differentiate between compilers and interpreters as used in programming. (2 marks)

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 [d). A trader bought a car from a manufacturer and later sold it to another person. Write a pseudocode for a program that will accept the buying price and the selling price of the car, determine whether the trader made a profit/or loss, calculate the profit/loss and display it. (4 marks)

 (e).Draw a flowchart for the above pseudocode. (4 marks)

17.(a). Subtract 01112 from 10012  (2 marks)

(b). Using two’s compliment, subtract 7 from 4 and give the answer in binary notation. (4 marks)

 (c). Convert

 (i). 91C16 to octal (3 marks)

 (ii). 3778 to hexadecimal (3 marks)

iii). 9.62510 to binary (3 marks)

18. [a].Explain three circumstances under which observation method may be preferred during data collection.

 (6 marks)

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 (b). State **three** activities that may be carried out during system implementation. (3 marks) ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

 (c). Explain **three** approaches that may be used to replace an old system with a new computerized system (3 marks)

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19. (a). What is meant by each of the following terms as used in data security and controls? (2 marks)

(i). Confidentiality

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 (ii). Industrial espionage

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(b). Jane a form four student was advised to partition a hard disk for her computer. Explain **two** reason that may have necessitated this. (4 marks)

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 (c). If one table in a database contains the field: EMPLOYEE **- ID, LAST – NAME, FIRST – NAME** and

 **HIRE – DATE** and another contains the fields **DEPARTMENT, EMPLOYEE – ID** and **SALARY**, it

 is possible to establish a relationship between the two tables. (6 marks)

(i). Name the type of such a database

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(ii). What type of relationship can be established between the tables? (1 mark)

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(iii). Provided the most appropriate data types for each of the fields. (3 marks)

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(d). A publishing firm designed the following publication using a DTP software,



(i). Give **two** reasons why the firm prefer using DTP instead of Word Processors. (2 marks)

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(ii). Identify **four** formatting features used in the designing the publication. (2 marks)

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20. (a) State the function of each of the following

(i). Network Interface Card (1mark)

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(ii). Modem (1mark).

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………… (iii). Repeater (1mark)

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(b). State any t**hree** reason why the fibre optic cable is preferred for data transmission over the other cables. (2 marks)

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(c). State **two** functions of networking operating systems other than providing network security. (2 marks)

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(d). Explain **four** advantages of networking. (4 marks)

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 (e). The figure below shows a network topology. Use it to answer the questions that follows:



(i). What is the name of the topology? (1mark)

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 (ii). What is the work of the part labelled T. (1 mark)

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 (iii). Highlight **one** disadvantage of the above topology identified in 20(e). (1 mark)

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