Name……………………………………………………Adm. No………..………………..

Date ……………………………………….....................Student’s Signature………………

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**(THEORY)**

**TIME: 2 ½ HRS**

**SET 2**

**FORM 4**

**Instructions to candidates**

**This paper consists of TWO sections, A and B**

**answer all questions in sections A.**

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

**for examiners use only**

|  |  |  |
| --- | --- | --- |
| section | Question | SCORE |
| A | 1 – 15 |  |
| B | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| Total marks |  |

***This paper consists of 12 printed pages.***

***Candidates should check to ensure that all pages are printed as indicated and no question is missing.***

**SECTION A ( 40 marks )**

***Answer all the questions in this section in the spaces provided*.**

1. With the aid of a program flow-chat, explain the WHILE ….. DO interaction

 construction. **(3 marks)**

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1. Name **two** types of secondary storage devices used in a computer giving an

 example of each. **(4 marks)**

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1. Write the following abbreviations in full. **(3 marks)**
2. BCD

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1. ASCII

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1. EBDIC

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**4.** **(a)** Explain what is meant by batch processing? **(2 marks)**

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 **(b)** Give **one** advantage and one disadvantage of batch processing. **(2 marks)**

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**5.** State **three** data representation codes used in computers. **(3 marks)**

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**6.** Differentiate between machine language and Assembly language. **(2 marks)**

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**7.** What is meant by the term “dry run” as used in program development? **(2 marks)**

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**8.** The cells K3 to K10 of a worksheet contain remarks on students’ performance such as excellent, very good, good, fair, and fail depending on the average mark. Write a formula that can be used to count all students who have the remark “very good”. **(2 marks)**

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**9.** What actions should be taken in case of a fire outbreak in the computer laboratory? **(4 marks)**

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**10.** What is an Internet Service Provider? **(1 marks)**

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**11.** List **four** ways of acquiring software in an organisation. **(2 marks)**

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**12.** Using **six** bits, find the two’s complement of -2310 **(4 marks)**

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**13.** Define the term data integrity. **(2 marks)**

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**14.** List **four** types of publications that can be designed using desktop publishing

 software. **(2 marks)**

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**15.** Write an algorithm to compute the area of a triangle. **(2 marks)**

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**SECTION B ( 40 marks )**

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

**16.** The roots of the equation ax2 + bx + c = 0 are given by the formula

 X = -b $–b \pm \sqrt{b}- 4ac$ and $a\ne 0$

 2a

1. Draw a flow chart to compute the roots of the equation. **(10 marks)**
2. Using the flow chat write a program that will compute the roots and if

 b2 – 4ac is negative, the program should display the message “NEGATIVE”

**(5 marks)**

**17.** **(a)** State any **three** reasons why people may resist the introduction of computers at their work place. **(3 marks)**

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1. Explain the difference between data privacy and data security. **(4 marks)**

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 **(c)** State **two** operational methods of an organisation insuring the security of data. **(2 marks)**

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 **(d)** Explain the use of computers in health care. **(6 marks)**

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**18.** **(a) (i)** Define normalization **(2 marks) ......................................................................................................................................................**

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**(b)(i)** What is a distributed system? **(3 marks)**

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**(ii)** State any **three** advantages of a distributed system **(3 marks)**

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1. State any **four** criteria for choosing an operating system **(4 marks)**

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**19.** An NGO has donated 20 brand new computers to your school. As a computer student you have been requested to advice on the type of operating system to be used by providing answers to the following questions.

 **(a)** What is an operating system? **(1 mark)**

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 **(b)** State and explain any **two** types of operating systems. **(6 marks)**

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 **(c)** Briefly explain any **four** functions of an operating system. **(8 marks)**

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**20.** **(a)** What is a computer network topology? **(2 marks)**

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**(b)** Using appropriate diagrams, Show any **three** computer network

 topologies. **(9 marks)**

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**(c)** Briefly explain **two** reasons why organisations need to network their

computers. **(4 marks)**

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