**SUNRISE EVALUATION EXAMS FORM 4-2022**

**NAME:……………………………………………ADM NO:………………………..CLASS:………………..**

**SCHOOL:……………………………………………………………………. CANDIDATE’S SIGNATURE:………………….**

 **GRAND TOTALS**

**END OF TERM 2-2022**

**COMPUTER STUDIES (THEORY)**

**SEPTEMBER 2022**

**TIME:21/2 HOURS**

**451/1: PAPER 1**

**INSTRUCTIONS TO CANDIDATES**

* Write your name , school and index number in the spaces provided above
* This paper consists of TWO sections A and B
* Answer ALL questions in section A
* Answer question 16 and any other THREE questions from section B
* ALL answers should be written on spaces provided on the question paper
* This paper consists of 15 printed pages
* Candidates should check the question paper to ascertain that All pages are printed as indicated and that no questions are missing

**FOR EXAMINERS USE ONLY**

|  |  |  |
| --- | --- | --- |
| **SECTION** | **QUESTION** |  |
| A | 1-15 |  |
| B | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
|  | **TOTAL MARKS** |  |

**SECTION A 50 MARKS**

1. State ***one*** function for each of the following elements of a computer system: (3mks)
2. Hardware

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1. Software

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1. Live ware

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1. Explain ***two*** health issues that could arise from the use of an unsuitable computer desk (4mks)

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1. List ***two*** categories of system software (1mrk)

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1. Explain ***two*** contents of a warranty that should be considered when purchasing computer hardware (4mks)

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1. Students of a school intend to elect their school captain by secret ballot. State ***three*** ways in which computers can be used to improve the election process (3mks)

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1. Figure 1 and figure 2 show icons representing commands used to manipulate graphics in a desktop publishing package.

 Explain the use of each of the icons labeled **figure 1** and **figure 2**

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1. Give two differences between a Graphical User Interface (GUI) and a command line Interface. (4mrk)

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1. Identify each of the following symbols as used in a system flowchart.
2. (1mrk)

 b) (1mrk)

1. A student typed a letter in a word processor and the last line of the letter flowed to the second page. State three ways in which the student could have adjusted the letter to fit on one page without changing the paper size. (3mks)

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1. A computer user is unable to retrieve a file stored in a server in an organization. State three reasons why the user would need to contact the network administrator (3mks)

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11. State three ways in which mobile phones have affected money transactions in the country (3mks)

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12. State two items that an electronic mail should have for it to be sent. (2mks)

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13. List four devices that use scanning technology that would be used to capture data directly from source. (2mks)

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14. State two ways in which hardware failure is a threat to data security. (2mks)

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15. Given the binary number 101011101111011, determine the number of:

1. Nibbles (1mk)

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1. Bytes (1mk)

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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 the advantages of using low level programming languages (2mks)

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1. other than flowcharts, state three tools that can be used to present an algorithm (3mks)

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17 a) with the aid of a diagram, describe time sharing mode as used in a computer data processing (5mks)

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1. A company’s management has opted to use computers to process data. State four factors that the management needs to consider when selecting the company data processing mode. (4mks)

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1. Explain the purpose of each of the following in system documentation:
2. User manual (1mk)

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1. Sample data (1mk)

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1. Table descriptions (1mk)

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18. a) State the role of each of the following data communication devices

1. Repeater (1mk)

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1. Router (1mk)

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b) Figure 3 shows a network based on the bus topology.



1. Identify the component **P** (1mk)

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1. State the function of the component labeled P (2mks)

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c) Students of Matuga secondary school formed an environmental club with a goal of taking part in environmental conversation activities. Outline three ways in which they can use the internet to achieve this goal. (3mks)

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d) i) A company has three branches A, B and C where A is the headquarter. The local area network (LAN) at A is directly connected to the LAN at B also directly connected to the LAN at C. Explain two benefits of having the LAN at B also directly connected to the LAN at C. (4mks)

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ii) State three ways in which a company can protect its computer network from hackers (3mks)

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19. (a) The following is an extract from a document created using a word processor.

**CHALLENGES FACING THE YOUTH IN TODAY’S SOCIETY**

M

ostof the problems facing today’s youth are not restricted to any one ethnic or religious group, but affects young people generally. Studies have shown that issues such as drug abuse, crime, violence, sexuality and poverty are the most serious challenges afflicting them.

 **Other challenges include**

* Identify crisis: *Who am i?*
* Lack of self-confidence and low esteem: *I am worthless?*
* Sense of hopelessness: *where am I going?*
* Confusion and ambiguity concerning moral issues: *what is right and wrong?*
* Negative impact of electronic media: *Entertainment*?
* Competitiveness in education the even playing field: *Excellence by whom?*

~~Not Me~~

1. Identify six formats that have been applied on the extract. (3mks)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. State three tools in a word processor that would help a user to minimize spelling mistakes when creating a document (3mks)

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c) The following is an extract of a spreadsheet created to manage sales. Use it to answer the questions that follow.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | C | D |
| 1 | ITEM NAME | UNIT PRICE | UNITS SOLD |  |
| 2 | Bed  | 12,300 | 2 |  |
| 3 | Wardrobe  | 16,000 | 4 |  |
| 4 | Blanket  | 5,000 | 4 |  |
| 5 | Mattress  | 7,000 | 5 |  |
| 6 | Table  | 10,000 | 3 |  |

1. Write a formula that will compute the number of items whose unit price is more than 10, 000. (3mks) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. if the formula =$B2 \* C$2 was placed in D2, state the output if it was copied to D3. (1mk)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A school administers examinations to all students in science, humanities and languages. Use the entities: EXAMINATIONS, STUDENTS, SCIENCES, HUMANITIES and LANGUAGES to illustrate a network database model. (4mks)

20. (a) Describe the octal number system. (2mks)

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 (b) Convert each of the following to the number system indicated:

* + 1. 111.1012 to decimal (3mks)

* + 1. 14.687510 to binary (4mks)

(c) Convert the number -1710 into 8-bit:

1. Signed magnitude representation. (2mks)
2. Two’s compliment (2mks)

(d) Perform the arithmetic operation. (2mks)

 110.112 + 11.0112