Name:…………………………………………………………..Class:……Adm No:…….

**FORM 4 COMPUTER STUDIES - 2022 MAY**

**MID TERM 1 EXAMINATION (451/1)**

**TIME: 2HOURS**

1. (a) A computer laboratory should be constantly kept dust and smoke free.

Specify **two** effects that dust would have on the operation of computers. (2 marks)

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1. Why should you first switch on the UPS before switching on the system unit and the monitor? (2 mark)

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2. Explain the meaning of backup. (2 marks)

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3. State the following types of transcription errors. (2 marks)

(a) 3455 instead of 3456

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(b) Smith instead of simth

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4. (a) State **three** ways used to represent a negative number. (3 marks)

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(b) Perform the following binary arithmetic giving the answer in decimal notation.

1110.0111 + 1101001.011 (2 marks)

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5. Distinguish between data privacy and data integrity as used in computing. (2 marks)

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6. Differentiate between a primary key and a foreign key while designing a database.

(2 marks)

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7. Distinguish between ‘count’ and ‘count if’ functions as used in spreadsheets. (2 marks)

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8. Explain the impact of Information Technology on organization in each of the following

areas. (2 marks)

1. Competition.

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1. Pace of growth.

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9. List **two** roles performed by system analyst. (2 marks)

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10. Explain the following internet related terms. (4 marks)

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Sign up\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. In Kenya Tea Packers Company, several people are employed as record clerks, typists and messenger. The company intends to introduce a computerized system in all the departments. Suggest **three** reasons that would make workers unhappy with the new system. (3 marks)

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12. State **two** magnetic Storage devices. (2 marks)

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13. State **three** functions of Central Processing Unit. (3 marks)

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14. Explain two ways of protecting data and information in a database against unauthorized access (2marks)

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15. a) Name two ways in which data can be input into a computer, and state the device that can be used in each case. (2mks)

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b) Explain why a buffer is used in the output of data to a line printer (1mk)

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**SECTION B**

**(Answer question 16 and any other three questions from this section)**

16. (a) List two programming language translators. (2mks)

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(b) State three advantages of using low level programming languages. (3mks)

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(c) Give two methods you would use in error detection during program testing. (2mks)

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(d) i) Study the flowchart below and write a pseudo-code for the flowchart. (7mks)

Input A, B, C

Sum = A+B+C

Sum > 200

Sum = sum +20

Sum = sum - 30

Display sum

(ii) Name the control structures used in the flow chart above. (1mks)

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17. a) Explain any **THREE** functions of **system software** in a computer (3mks)

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1. As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. (4mks)

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1. Explain three problems associated with using e-mail technology for communication. (6mks)

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d) State three advantages of integrated software as opposed to single purpose. (3mks)

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18. a) List and describe four strategies for converting from an old system to a new system. (4mks)

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(b) (i) Distinguish between private data and confidential data. (2mks)

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(ii) What can be done to stop illegal access to a computer laboratory by unauthorized people? (3mks)

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1. (i) List **four** areas that would be considered in the requirement specification. (4mks)

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(ii) Name any **two** areas covered in feasibility report during system analysis and design. (2mks)

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19. (a) What is the hexadecimal equivalent of 7678 (3mks)

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(b) Use one’s compliment to solve the following sum: -510 (2mks)

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(c)Compute the values of X in the following expressions

i) 24.3510 = X2

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(ii) 6A13H = X10 (2mks)

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(d) Using two’s complement compute (5mks)

3610 – 2510

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20. a) On her first day at work as a school librarian, Sera notices that book records are kept manually using a card system. She suggests to the Principal that they use a database. State three reasons why using a database would be helpful to the librarians (3mks)

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1. Give four examples of DBMS programs which could be used. (2mks) **Lotus**

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1. The manager of Pacific Company Ltd uses a database to keep records of his employees as shown in the table below. Use this information to answer the questions that follow.



1. Name and explain the appropriate data type for

ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1mk)

Age: ­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1mk)

Salary\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1mk)

1. Write a query expression to display details of employees working in the Administration department

(3mks)

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1. The function =AVERAGE (B2:B8) in cell B9 has been copied and pasted to cells C9 to K9 in spreadsheet.
2. What would be the formula at cell D9 (2mks)

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1. Explain the type of cell referencing used in the above formula (2mks)

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