NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ INDEX NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SCHOOL \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SIGNATURE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**THEORY**

NOV/DEC 2021

**TIME: 2½ HOURS**

**LANJET JOINT EVALUATION NOV/DEC 2021**

**INSTRUCTIONS TO CANDIDATES:**

* Write your name, index number and school in the spaces provided above.
* Write the date of examination and sign in the spaces provided.
* This paper consists of **two** sections.
* Answer **all** the questions in section **A.**
* Answer question **16** (compulsory) and **any other three** questions from section **B**.
* All answers **must** be written in the spaces provided in this question paper.

**FOR EXAMINER’S USE ONLY**

|  |  |  |  |
| --- | --- | --- | --- |
| **SECTION** | **QUESTION** | **MAXIMUM SCORE** | **ACTUAL SCORE** |
| **A** | 1 – 15 | 40 |  |
| **B** | 16 | 15 |  |
| 17 | 15 |  |
| 18 | 15 |  |
| 19 | 15 |  |
| 20 | 15 |  |
|  |  | **TOTAL SCORE** |  |

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

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

**SECTION A (40MARKS)**

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

1. State **two** practices to be observed in a computer laboratory in order to ensure the safety of the computer user (2marks)

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2. Define portability as used in software selection (1mark)

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3. a) How does an operating system manage computer memory (2marks)

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 b) i) What is meant by disk partitioning? (1mark)

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 ii) State the purpose of disk partitioning (1mark)

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4. a) List **four** stages in data processing cycle (2marks)

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 b) What is meant by the following (2marks)

 i) Reference file

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

 ii) Master file

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5. a) Describe **two** situations in the bus transport industry where computerized systems could replace human employees. (2marks)

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 b) State **one** role of

 i) Webmaster (1mark)

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

 ii) Network administrator (1mark)

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

6. a) Give **one** reason why parallel cables are faster than serial cables in data transmission (1mark)

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 b) State any **two** ways that may be used to represent a negative number in a computer. (2marks)

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

7. a) Distinguish between autocomplete and the autocorrect feature in word processing. (2marks)

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 b) What is thesaurus? (1mark)

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

8. a) Define the following terms as used in internet (2marks)

 i) Internet

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 ii) Piconet

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

9. Give **two** reasons why a DTP is preferred over Word Processors in creation and editing of magazines (2marks)

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10. The following are symbols of some keys on the keyboard. Name the keys represented by the symbols (2marks)



11. 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 (4marks)

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12. a) Distinguish between a workbook and a worksheet as used in spreadsheets (2marks)

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 b) What is the meaning of ‘what if analysis’ with respect to spreadsheet? (1mark)

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13. Give a reason why HTML is not considered as a true programming language. (1mark)

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14. Define the following computer crimes

i) Piracy (1mark)

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ii) Industrial espionage (1mark)

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15. State the following types of relationship as used in database design (3marks)

i)

Student

Books

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Student

Registration number

ii)

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

Course Unit

Student

iii)

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

**SECTION B (60MARKS)**

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

16. a) State three advantages of low -level languages (3marks)

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 b) Give two differences between a compiler and an interpreter. (2marks)

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 c) i) Draw a program flow chart to give out the sum and average of the first 50 odd numbers in the

 series: 1, 3, 5... (5marks)

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 ii) Write a pseudo to give out the sum and average of the first 50 odd numbers in the series:

 1, 3, 5… (5 marks)

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17. Use two complement to perform the following arithmetic operations

 i) 1510 -1210 (4marks)

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 ii) 101112- 10112 (3marks)

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b) 10112 is a ones complement binary representation of negative number using four bits work out the likely positive equivalent in base 10. (4marks)

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c) Convert the decimal fraction 10.37510 into its binary equivalent (4marks)

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d) Assuming the existence of base five, list the numbers used in the number system (1mark)

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18. a) Highlight **three** circumstances that necessitate the development of new information systems(3marks)

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 b) Describe **three** factors that cause system entropy (3marks)

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 c) State **two** tools that a system analyst may use to design a system (1mark)

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d) Outline **three** factors that should be considered when sourcing for hardware and software resources required for a new system (3marks)

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 e) Name **two** circumstances in which it is better to use a questionnaire than a interview for gathering information (2marks)

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 f) State **three** reasons why users may resist the introduction of an information system in their place of work (3marks)

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19. a) Explain why a computer is able to display the correct time and date when it has just be switched on.

 (2marks)

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 b) Discuss two types of special memories found in a Computer System. (4marks)

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 c) i) Define a Bus with reference to a computer system. (1mark)

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 ii) List two examples of buses. (2marks)

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 d) Distinguish between a power cable and interface cable. (2marks)

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 e) Differentiate between the different types of RAM. (4marks)

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1. a) Explain how you can defend your files from the following risks.
2. Fire in the computer laboratory (2 marks)

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1. Hackers (2 marks)

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1. Virus attacks (2 marks)

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1. Disgruntled ex-employees (2 marks)

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 b) Distinguish between private and confidential data (4 marks)

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 c) List **three** sources of computer viruses (3 marks)

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