

SECTION A (40 marks)

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

- 1** State the function of the control unit in respect to each of the following: (2 marks)
- (a) coordination;
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- (b) flow of data.
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- 2** A school intends to acquire a desktop computer. State **three** factors the school should consider about the computer memory. (3 marks)
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- 3** State the difference between Random Access Memory and Read Only Memory with respect to volatility. (1 mark)
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- 4** State **three** circumstances that may necessitate formatting of a computer hard disk. (3 marks)
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- 5 (a) Arrange the following units of measurement in a computer from the largest to the smallest. (1 mark)

byte, nibble, bit, word

- (b) Convert 2560 Gigabyte (GB) to Terabyte (TB). (2 marks)

- 6 A company prefers laser printers over dot matrix printers for its operation. State three technological reasons for the preference. (3 marks)

- 7 State two possible actions that a user may take when a computer's operating system becomes unresponsive to commands. (2 marks)

- 8 Explain each of the following factors in reference to integrity in data processing: (4 marks)

(a) timeliness;

(b) relevance.

9 Write an example for each of the following cell reference methods in spreadsheets: (3 marks)

(a) mixed reference;

(b) relative reference;

(c) absolute reference.

10 State three reasons that have led most business people to prefer the use of Electronic Funds Transfer (EFT) as a mode of payment. (3 marks)

11 Explain the term *authenticity* as a criterion for software selection. (2 marks)

- 12 Distinguish between a word wrap and wrap text as used in word processing. (4 marks)

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- 13 A data analyst wishes to use a keyboard to navigate within a worksheet in an electronic spreadsheet. Other than arrow keys, state **three** examples of navigation keys the analyst may use. (3 marks)

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- 14 Distinguish between a stroke and a fill as used in Desktop Publishing. (2 marks)

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- 15 Explain the function of a web server in the internet. (2 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 characteristics of a source code in programming. (3 marks)

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- (b) A systems programmer opts to develop an application using a low-level programming language. Explain three reasons for the option. (6 marks)

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- (c) (i) Draw a flowchart for a program that prints the following sequence of numbers: 6, 9, 12, 15 ... for all the values less than 150. (4 marks)



- (ii) State two advantages of using flowcharts in programming. (2 marks)

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- 17 (a) State **three** factors that may be considered when creating user forms during system development. (3 marks) 18

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- (b) Explain **two** benefits of carrying out unit testing during system development. (4 marks)

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- (c) System users in an organization were provided with the user-manual. Explain **two** uses of this manual. (4 marks)

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- (d) A user replaced a command line based operating systems with Graphical User Interface operating system in a computer. State **four** windows interface operations that the user would be able to perform with the new operating system that could not be done with the replaced operating system. (4 marks)

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- (a) A school has been advised to install an email software. State **four** advantages the school would gain from this service. (4 marks)

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- (b) A database table has fields; EmployeeID, EmployeeName, HoursWorked and Rate_per_hour. Write an expression that would return:

- (i) a field named wages which is a product of hours worked and rate per hour; (3 marks)

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- (ii) details of employees whose EmployeeID is between 100 and 200. (2 marks)

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- (c) (i) Explain the term *data encryption* as used in data security. (2 marks)

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- (ii) With the aid of an illustration, explain the process of data encryption during transmission of data. (4 marks)

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- 19 (a) System development companies are opting to hire employees from any part of the world. State three web development related skills that these companies may look for.

(3 marks)

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- (b) Using one's complement convert the decimal number 19.625 to its binary number equivalent. (6 marks)

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- (c) A company realised that its systems had been jammed and all its online services made inaccessible. Explain **three** control measures the company should have put in place to prevent this occurrence. (6 marks)

- (a) State **three** effects of e-waste materials on the home environment. (3 marks)

- (b) A student was advised to back-up project files on a secondary storage device. Explain **two** reasons for backing up the files. (4 marks)

- (c) Explain **one** function of each of the following computer network components:

- (i) gateway; (4 marks)

(ii) bridge.

- (d) **Figure 1** shows a cross section of a type of cable used in data communication. Study it and answer the questions that follow.



Figure 1

- (i) Identify the type of cable.

(1 mark)

- (ii) State three advantages of using this type of cable.

(3 marks)

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