3.24 COMPUTER STUDIES (451)

3.24.1 Computer Studies Paper 1 (451/1)

SECTION A

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

1. State the meaning of the term computer software. (2 marks)

2. State three features of fifth generation computers. (3 marks)

3. Differentiate between home page and web page as used in the Internet. (2 marks)

4. State three characteristics of mainframe computers. (3 marks)

5. The management of an organisation intends to purchase a printer. State three factors that they should consider during the purchase. (3 marks)

6. Describe each of the following computer cables:
   (a) Parallel cable; (2 marks)
   (b) Serial cable; (2 marks)

7. A computer technician has observed a lot of dust on computers in the computer laboratory. State three precautions that need to be put in place to avoid this. (3 marks)

8. Explain the term proofreading as used in word processing. (2 marks)

9. State the function of each of the following computer keyboard keys when using a word processor:
   (a) End (1 mark)
   (b) Insert (1 mark)
   (c) Backspace. (1 mark)

10. Explain two problems associated with the computer hard disk. (4 marks)

11. State the spreadsheet function that can be used to obtain each of the following values in a worksheet:
   (a) Number of cells with values in a column. (1 mark)
   (b) Mean of values in a range of cells. (1 mark)
12 A school intends to install wireless media in their communication system. State three advantages of this mode of communication media. (3 marks)

13 State two ways in which one can create a password which cannot be easily accessed by hackers. (2 marks)

14 State two ways through which a computer user can minimise Repetitive Strain Injuries (RSI) associated with the use of a computer. (2 marks)

15 Identify four tasks that can be achieved using a Desktop Publishing programme from the following list of tasks. (2 marks)
   I. Managing students records in a school
   II. Creating a calendar
   III. Designing a building structure
   IV. Creating a banner
   V. Creating a book cover
   VI. Processing of examination results
   VII. Creating business cards

SECTION B

Answer question 16 and any other three questions from this section.

16 (a) State two qualities of a good pseudocode. (2 marks)

   (b) With the aid of flowchart diagrams, describe each of the following programme control structures:
       (i) sequence (3 marks)
       (ii) selection (3 marks)

   (c) Draw a programme flowchart that would accept three numbers and find their sum. If the sum is greater than 200. It adds 30 to the sum, otherwise subtracts 20 from the sum. The programme should then display the results. (7 marks)

17 (a) Describe three arithmetic errors that may occur during computerised data processing. (6 marks)

   (b) Arnold a programmer intends to create a user input interface screen for a system. State three factors that he should consider. (3 marks)

   (c) With the aid of an example in each case describe the following types of maintenance.
       (i) adaptive; (2 marks)
       (ii) perfective; (2 marks)
       (iii) corrective. (2 marks)
18 (a) Distinguish between a microwave transmission and a radio transmission. (4 marks)

(b) Figure 1 shows a computer, network topology. Use it to answer the questions that follow.

![Network Topology Diagram]

Figure 1

(i) Identify the type of topology. (1 mark)
(ii) State the function of each of the parts labelled A and B. (4 marks)

(c) A computer laboratory experiences power supply problems. Describe three power related problems that should be addressed. (6 marks)

19 (a) A school has been advised to employ a database administrator. State three responsibilities of this personnel in the school. (3 marks)

(b) Explain two ways in which computers can be used in the transport industry. (4 marks)

(c) Mary was advised to partition a hard disk for her computer. Explain two reasons that may have necessitated this. (4 marks)

(d) Explain a reason for conducting each of the following studies in systems development:

(i) Schedule feasibility; (2 marks)
(ii) Technical feasibility. (2 marks)

20 (a) Explain three functions of an information system in an organisation. (6 marks)

(b) Explain two benefits that a company would gain from using batch processing method for data processing (4 marks)

(c) (i) Convert the number 11101.11_2 to its decimal equivalent. (3 marks)

(ii) Perform the following binary operation 11011_2 + 101_2 (2 marks)