



FORM 3

Computer Studies

TIME: 1h 30min

Name: _____

Class: _____

Directions to Candidates:

*Answer ALL questions in Section A on this paper;
 Answer BOTH questions from Section B on separate foolscaps;
 The use of flow chart template is permitted;
 Calculators are NOT allowed;
 Good English and orderly presentation are important.*

For office use only:

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Paper Total	Course Work	Final Mark
Max	5	5	5	5	5	5	5	5	5	5	5	15	15	85%	15%	100%
Mark																

- 2 The CPU and **Central (main) Memory** are two important units of the computer system.
- Name the two subunits found in the CPU and briefly explain the **function** of each.
 - Give **two** main differences between RAM and ROM.

Name subunit 1: _____

Function: _____

Name subunit 2: _____

Function: _____

1st Difference: _____

2nd Difference: _____

[5]

- 3 (a)
 - Differentiate between an **analogue** and a **digital** signal.
 - Give an **example** of an analogue and of a digital device.

Analogue: _____

Example: _____

Digital: _____

Example: _____

[4]

- (b) What is the **name** of the device that changes analogue signals to digital signals and vice-versa?

Name: _____

[1]

- 4 Complete the table below to show each number in **Binary** (8 bit), **Decimal** and **Hexadecimal**.

Binary								Decimal		Hexadecimal	
0	1	1	1	0	0	1	0	=		=	
								=	96	=	
								=		=	3E

[5]

Working space:

5 For each of the following devices state if it is an **Input** or an **Output** device:

i. Braille keyboard:	
ii. Trackball:	
iii. Eye sensor reader:	
iv. Graphics tablet:	
v. Braille printer:	
vi. LCD projector:	
vii. Light pen:	
viii. Touchpad:	
ix. VDU:	
x. Digital camera:	

[5]

6 (a) How many **bits** are there in a:

- i. Byte; and
- ii. KB?

Byte: _____

KB: _____

[2]

(b) A database file contains 10,000 **records** and each record has 8 **fields**. Each field requires 20 **bytes** of storage space. Will the database file fit in a **floppy disk**? (Show your working to justify your answer)

Working space:

Answer: _____

[3]

7 Complete the table below to show whether each of the following five secondary storage media are: **magnetic**, **optical** or **electronic**.

i. Compact Disc:	
ii. Hard Disk:	
iii. Flash Drive:	
iv. Floppy Disk:	
v. DVD:	

[5]

8 For each of the following statements, indicate the most suitable **peripheral** to use:

i. To read data from bank cheques to update the customers' accounts:	
ii. To produce high quality black and white hardcopies at home:	
iii. To sketch a cartoon on paper and at same time digitising it:	
iv. To collect the information that was written on a questionnaire sheet:	
v. To transfer an old photograph into the computer:	

[5]

9 (a) **Format**, **Defrag (defragmentation)** and **Antivirus** and three important utilities. Briefly describe their function.

Format: _____

Defrag: _____

Antivirus: _____

[3]

(b) Another utility is the **file compression software** (eg Winzip). Mention two **situations** when files need to be compressed.

1st situation: _____

2nd situation: _____

[2]

- 10 (a) i. What does **URL** stand for?
ii. What is a URL?

i: _____
ii: _____

[2]

- (b) Differentiate between a **web browser** and a **search engine**.

Browser: _____

Search Engine: _____

[2]

- (c) Why are **bookmarks (favourites)** useful when using the Internet?

Bookmarks: _____

[1]

- 11 (a) You are typing a letter to a friend using the word-processor. Give **two** reasons to justify the use of the word-processor and not the spreadsheet program for this task.

1st Reason: _____

2nd Reason: _____

[2]

- (b) **Table of contents**, **indexing** and **multicolumns** are three features used in word processing. Briefly explain what they are.

Table of contents: _____

Indexing: _____

Multicolumns: _____

[3]

Section B – Answer BOTH Questions

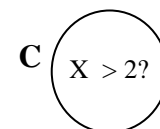
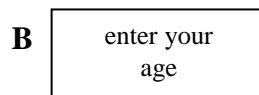
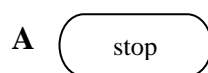
- 12 (a) A database has to be created to maintain the patients' information in a hospital. The following table shows the incomplete file specifications.

Field Name	Data Type	Size/Format
Name	Text	15
Surname	Text	15
	Text	
	Text	
	Number	
	Date/Time	
	Yes/No	

- i. Copy and complete the table above by filling in **five** other important field names and their size/format according to the given data types. [5]
 - ii. How does a **key field** differ from a normal field? [1]
 - iii. Which field, from the specifications table above, do you suggest as the key field? [1]
 - iv. In a hospital the database needs to be **updated** regularly. Name and explain the **three** updating tasks to keep the database up-to-date. [3]
 - v. **OLE** is another data type that can be used in the database. What does OLE stand for and for what is it used? [2]
- (b) An important database facility is querying the database.
- i. What is a **query**? [1]
 - ii. Differ between a **simple** and a **compound** query. [2]

- 13 (a) **Flowcharts, pseudo-code and structure charts** are three terms associated with the solution to a problem.

- i. Explain the **difference** between the three terms. [3]
- ii. Give one **situation** where pseudo-code is preferred to flowcharts. [1]
- iii. A, B and C below are three flowchart symbols together with some text. State whether each symbol is being used **correctly or not**.



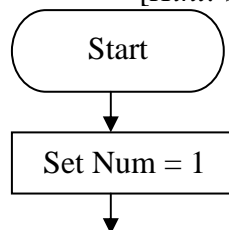
[3]

- (b) Copy and complete the flowchart below to solve the following problem:

- Ask the user to input a number;
- According to the number input, the mathematical times results from 1 to 12 are printed.

That is, if 3 is entered the output will be: 3, 6, 9, ... 33, 36.

[Hint: Some steps need to be repeated.]



[8]

