

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit

StudentBounty.com

FORM 3 (Option)

COMPUTER STUDIES

TIME: 1 hr 30 min

Name: _____

Class: _____

Directions to Candidates:

Answer **ALL** questions in **Section A** on this paper;
Answer **ALL** 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																

Section A - Answer all Questions

- 1 (a) Fill in the table below to obtain the conversion of each number in **binary** (8 bit), **hexadecimal** and **decimal**.

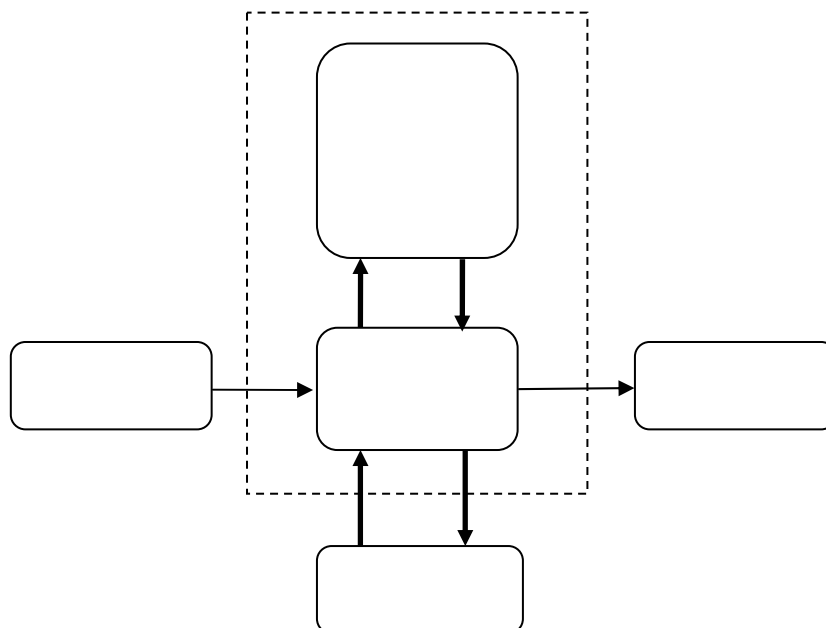
Binary	Hexadecimal	Decimal
1 1 0 0 0 0 0 1	=	=
	=	=

Working Space:

- (b) Tick (✓) to show whether the following is **true** or **false**: [4]
- 1101 = 001101 True: ☐ False: ☐ [1]

- 2 Use the following five (5) terms to label the **block diagram** of a computer system shown below.

CPU, Output Devices, Secondary Storage Device, Input Devices, Central (main) Memory.



[5]

- 3 (a) Data can be either **digital** or **analogue**. Briefly explain the difference between both types and give an example of a device (or process) for each type of data.

Digital: _____

Example: _____

Analogue: _____

Example: _____

[4]

- (b) Tick (✓) to show whether the following statement is **true** or **false**:

ASCII is a special input device.

True: ☐

False: ☐

[1]

- 4 (a) In the boxes below draw the symbols for the **AND**, **OR** and **NOT** gates.

AND

OR

NOT

[3]

- (b) Complete the following truth table for the output of the **AND** gate.

A	B	Output
0	0	
0	1	
1	0	
1	1	

[2]

- 5 (a) What do the acronyms **RAM** and **ROM** stand for?

RAM: _____

ROM: _____

[2]

- (b) State whether each of the following is referring to **RAM** or **ROM**.

When the computer is switched off everything in it is lost: _____

Nothing can be written in this memory: _____

The more you have of this memory the faster the computer is: _____

[3]

- 6 The following is a list of five (5) input systems:
Braille keyboard, MICR, OCR, OMR, Scanner.

Write the **name** of the input system from the list above that is related to each of the following phrases.

Reads magnetic printing: _____

Converts printed characters into electronic signals: _____

Reads pencil/pen marks on pre-printed forms: _____

A special keyboard with raised dots rather than characters: _____

Converts a photograph into digital format: _____

[5]

- 7 (a) **Browser** and **Search Engine** are two Internet related terms. Briefly explain the difference between both terms.

Browser: _____

Search Engine: _____

[2]

- (b) i. What does the acronym **URL** stand for?

URL: _____

ii. Tick (✓) the **correct** statement for a URL:

- ☐ An email address of a person
☐ An address of a web site
☐ A postal address

[2]

- (c) Briefly explain the use of **Bookmarks** when using the Internet.

Bookmarks: _____

[1]

- 8 Secondary storage devices may be divided in three categories **Magnetic, Optical** and **Electronic**. Write the **type of category** for each of the following media.

Compact disc (CD): _____

Hard disk: _____

Floppy disk: _____

Pen drive: _____

Digital versatile disc (DVD): _____

[5]

- 9 (a) For a database to show the correct information it must be **updated**. Write down the three (3) main **updating operations**.

1st operation: _____

2nd operation: _____

3rd operation: _____

[3]

- (b) When **sorting** the records in a database they can be sorted in either **ascending order** or **descending order**. For the following two lists, state which is sorted in ascending order and which in descending order.

List 1: 3, 7, 12, 15, 20.

List 2: Zammit, Xuereb, Debrincat, Bajada, Abela.

List 1: _____

List 2: _____

[2]

- 10 The following is a list of five (5) output devices:

Monitor, LCD Projector, Dot Matrix, Plotter, Braille Printer.

Write the **name** of the output device from the list above that is related to each of the following phrases.

Normally produces graphical output on paper: _____

Many people viewing a presentation: _____

May produce many carbon copies of an invoice: _____

The main output device with a home desktop computer: _____

Produces hardcopy output as embossed dots: _____

[5]

- 11 (a) Use the following words to complete the sentences below.

formatted, utilities, compresses

_____ are special programs that perform important tasks.

A new disk must be _____ before it can be used to save data.

Winzip is a program that _____ a file so that it takes less storage space

[3]

- (b) **Table of contents** and **multi-columns** are two features used in a **word-processor**. Briefly describe their use.

Table of contents: _____

Multi-columns:

[2]

Section B – Answer BOTH Questions

- 12** The school librarian has decided to use a database to store the information on books, on students and on books taken on loan. Two files that the librarian created are the **Book file** and the **Student file**. Each book in the Book file was given a **unique book number**. While each student in the Student file was also given a **unique student number**.

- (a) Part of the **file specification table** for the Book file is shown below:

Book File:	Field name	Data type
	Book number	Number
	Book Title	Text
	Author	Text

Which **field** from the Book table above would you suggest to be the **key field** (primary key)?

[1]

- (b) Copy and complete the following **file specification table** for the Student file:

Student File:	Field name	Data type
	Student number	Number
	Student Name	
	Student date of birth	
	Book number on loan	
	Date book to be returned	

[6]

- (c) Which **field** from the Student table above would you suggest to be the **key field** (primary key)?
- (d) The librarian has to send a letter (reminder) to those students who have overdue books. Explain **how** the librarian can **use fields** from both files to find these students.
- (e) Give **two** advantages for using a computerized system rather than a manual system.
- (f) Give **two** disadvantages for changing to a computerized system.

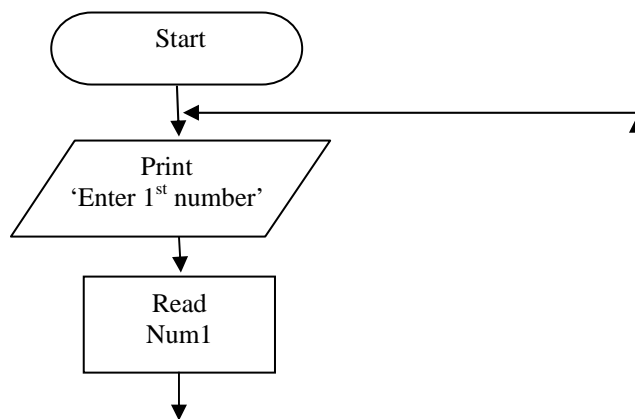
[1]

[3]

[2]

[2]

- 13 (a) A flowchart may be used to design the solution to a problem. Draw the **flowchart symbols** for the following five items:
process, input/output, terminal, decision and procedural.
- (b) The drawing below shows an incomplete flowchart. Copy and complete the **flowchart** to design the solution for the following problem:
- Ask the user to enter any **two numbers** (called **Num1** and **Num2**)
 - Output the **total** (sum) of the two numbers;
 - Ask the user if s/he wants to enter another two numbers and finds their total.



[10]

End of paper
