

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 5 (Option)

COMPUTER STUDIES

TIME: 1 hr 45 min

Name: _____

Class: _____

Directions to Candidates:

Answer ALL questions in Section A on this paper;

Answer any TWO 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	14	Paper Total	Course Work	Final Mark
Max	5	5	5	5	5	5	5	5	5	5	5	15	15	15	85%	15%	100%
Mark																	

Section A - Answer all Questions

- 1 (a) Explain the difference between a **standalone** computer and a **network** computer.

Difference:

[1]

- (b) **LAN** and **WAN** are two types of network systems. What is the main **difference** between the two types?

Difference:

[1]

- (c) Mention two **advantages** and one **disadvantage** of having a network system rather than standalone computers.

1st Adv.:

2nd Adv.:

Disad.:

[3]

- 2 (a) Which one of the following **number systems** is typically used to show how computers work?

Decimal, Octal, Binary

Number system:

[1]

- (b) Convert the Hexadecimal number **A2** to **Binary** and then to **Decimal**.
Space for working:

Binary:

Decimal:

[2]

- (c) Convert the Binary number **10110011** to **Hexadecimal** and then to **Decimal**.
Space for working:

Hex.:

Decimal:

[2]

3 (a) Why is a **secondary storage device** an important hardware item with computers?

Answer: _____

[1]

- (b) Secondary storage devices can be one of three different **types**. A **magnetic device/medium** is one type and a **floppy disk** is an example.
- What are the other two **types** called?
 - For each type give an **example** of a device/medium.

1st type: _____

Example: _____

2nd type: _____

Example: _____

[4]

4 (a) Use two of the following words to **complete** the two sentences below.

source, translator, executable

- _____ code is the one that is obeyed by the hardware.
- A programmer writes _____ code.

[2]

- (b) **Assemblers, Compilers and Interpreters** are three translators. Give three **differences** between these translators.

Assembler: _____

Compiler: _____

Interpreter: _____

[3]

5 (a) Use two of the following words to **label** the two **flowchart symbols** below.

Process, Input/Output, Decision

i.  _____

ii.  _____

[2]

- (b) The **program** below is supposed to find the total (sum) of ten (10) numbers entered from the keyboard. However the program has an **error**.
(The instructions have been numbered for identification).

```

Line 1:      Program example;
Line 2:      Var
Line 3:      k, s, n : integer;
Line 4:      Begin
Line 5:      s := 0;
Line 6:      For k := 1 to 10 do
Line 7:      Begin
Line 8:          Write('Enter number: ');
Line 9:          Readln(n);
Line 10:         s := s - n;
Line 11:      End;
Line 12:      Write('The total is: ', s );
Line 13:      End.

```

- i. Write the **line number** where there is the error.
- ii. The three common types of programming errors are: **syntax, logic** and **runtime**. Which one of the three types is the error of part (i) above?
- iii. Write the **corrected** instruction.

- i. **Line number:** _____
- ii. **Type of error:** _____
- iii. **Correct instruction:** _____

[3]

- 6 (a)
 - i. What is **Video conferencing**?
 - ii. Write down one **special input device** that is required for video conferencing.

- i. **Video conferencing:** _____

- ii. **Special input device:** _____

[2]

- (b) Computers can be classified as either **general-purpose** or **dedicated**.
 - i. What is the **difference** between the two classes of computers?
 - ii. Give two **examples of dedicated computers** that are found in the home.

- i. **Difference:** _____

- ii. **1st Example:** _____
2nd Example: _____

[3]

- 7 Word processors make the work of clerks in an office **easier**. For example, it is easier to correct mistakes.

- i. Give two **advantages** of using a word processor rather than a typewriter.
- ii. Explain the terms **pagination** and **indentation** as used in word processing.
- iii. An Operating System (OS) is an example of **System software**. What **type of software** is a Word Processor?

- i. **1st Adv.:** _____

2nd Adv.: _____

- ii. **Pagination:** _____

Indentation: _____

- iii. **Type of software:** _____

[5]

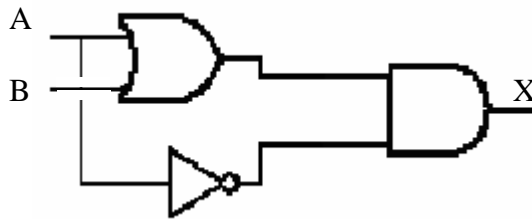
8 (a) **Complete** the two sentences below using two of the following words:

input, output, switch

- i. A logic gate is similar to an electronic _____.
- ii. All gates have one _____.

[2]

(b) Draw the truth table for the logic circuit below:



Space for Truth Table:

9 (a) Mention two different **security measures** which may be adopted to protect oneself from **unauthorized access** to data over a network system. [3]

1st security: _____

2nd security: _____

[2]

(b) Since 2001 Malta adopted the **Data Protection Act**. Mention three important **principles** of this act.

1st Principle: _____

2nd Principle: _____

3rd Principle: _____

[3]

10 For each of the five **tasks** below, write down the **best application** to use from the following list: **Internet browser, Word processor, Computer Aided Design (CAD), Desk Top Publisher (DTP), Spreadsheet.**

Tasks	Application
i. Designing a kitchen:	_____
ii. Preparing the school's magazine:	_____
iii. Typing a letter to your friend:	_____
iv. Preparing an invoice for a shop:	_____
v. Searching for a product on the computer:	_____

[5]

11 For each of the following **IT-related staff**, mention one main **duty**.

Programmer: _____

I.T. Trainer: _____

Computer Operator: _____

Web Master: _____

Computer Technician: _____

[5]

Section B – Answer any TWO Questions

- 12 (a) i. What does the acronym **MICR** stand for? [1]
 ii. Why is MICR mostly used in **banking**? [2]
- (b) The **barcode reader** is a very useful input device.
 i. Name one **application** where the barcode reader is used. [1]
 ii. Mention two **advantages** of using the barcode reader in the application you named in part b(i) above, instead of another input device. [2]
- (c) **Dot Matrix printers** are rarely used nowadays.
 i. Give one **advantage** and two **disadvantages** for using a dot matrix printer when compared to an ink jet printer.
 ii. Besides the dot matrix and ink jet printers, name another **common type** of printer.
 iii. What is the name of a special type of printer for **printing graphics**. [5]
- (d) i. Name one **input** and one **output** device which may be used by people with special needs.
 ii. Briefly explain how the two above-mentioned devices **help** people with special needs. [4]

- 13 (a) Two important functions in databases are **Sorting** and **Searching**. Explain what each **function** is used for. [4]
- (b) You have been asked to design a database to keep **details of books** in the school library.
 Copy the **file specifications table** below. Then complete by inserting three other important **field names** together with their **data type** and their **size/format**.
(Besides 'text' you should include at least two other different data types)

Name of Field	Data Type	Size/Format
name	text	50

- (c) What is a **key-field**? [9]
- (d) Which **field** from your books' specification table of part (b) above, would you select as **key-field**? [1]
- 14 (a) Mention three **duties** of the **system analyst**. [3]
- (b) The librarians of your school asked you as a systems analyst to investigate their manual system and check the possibility to change it to a computerized system. For each of the 6 stages listed below explain what you would do for the case study mentioned:
 • Feasibility study
 • Present system study
 • Design
 • Programming
 • Change over methods
 • System maintenance [12]

