

JUNIOR LYCEUM ANNUAL EXAMINATIONS 2008
DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Educational Assessment Unit

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) Define the three database terms: **record**, **field** and **key field**.

Record:

Field:

Key field:

[3]

- (b) The table below shows part of the design of a book file for a library system. The data types for **two** other important fields have been given. Complete the table by inserting the field names and their size/format for the two missing fields.

Field Name	Data Type	Size/Format
Location	Text	10
Title	Text	50
Author/s	Text	40
	Text	
	Number	

[2]

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

Binary	Hexadecimal	Decimal
1 0 0 1 0 1 1 1	=	=
	= B1	=
	=	= 45

[5]

- 3 (a) What do the abbreviations **RAM** and **ROM** stand for?

RAM: _____

ROM: _____

[1]

- (b) Give one **main difference** between the two memories of part (a) above.

Difference: _____

[2]

- (c) What **software** is stored in the ROM integrated circuit?

File: _____

[1]

- (d) Apart from a computer, mention a **home appliance** where a ROM integrated circuit may be found.

Appliance: _____

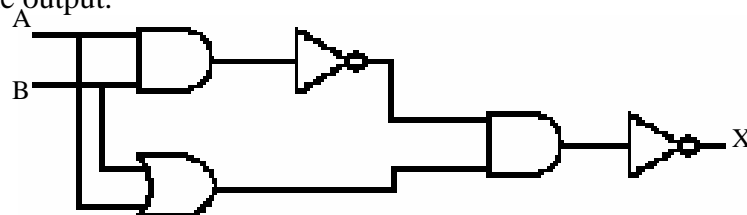
[1]

- 4 (a) Why are **truth tables** useful when designing logic circuits?

Truth tables: _____

[1]

- (b) For the logic circuit below, draw its truth table given that A and B are the inputs and X is the output.



[4]

- 5 (a) Storage media can either be **Magnetic, Optical** or **Electronic**.
i. What is the difference between a **Magnetic** and **Optical** media?
ii. Give one example of a magnetic medium and one of an optical medium.

Magnetic vs. Optical: _____

Example Magnetic: _____

Example Optical: _____

[3]

- (b) **USB flash (pen) drives** are an example of electronic media. Give **two** reasons why they became so popular.

1st Reason: _____

2nd Reason: _____

[2]

- 6 (a) Define the term **access time** as used for hard disks.

Access time: _____

[1]

- (b) Besides the data, a hard disk also stores the **File Allocation Table (FAT)**.

- i. What is the **FAT** used for?
ii. Give **three** items which can be found in the FAT.

FAT: _____

1st item: _____

2nd item: _____

3rd item: _____

[4]

- 7 (a) i. What does the acronym **MICR** stand for?
ii. Explain briefly where MICR is commonly used.

MICR: _____

Explanation: _____

[2]

- (b) For each of the following input devices give a suitable **application**: **keyboard**, **light pen**, **OMR**, **bar code reader**, **graphics tablet** and **mouse**.

Keyboard: _____

Light pen: _____

OMR: _____

Bar code reader: _____

Graphics tablet: _____

Mouse: _____

[3]

- 8 **Format**, **Scandisk**, **Defrag**, **Antivirus** and **Winzip** are five commonly used utilities when using the computer. Briefly explain the usage of each utility.

Format: _____

Scandisk: _____

Defrag: _____

Antivirus: _____

Winzip: _____

[5]

- 9 (a) The two statements below are parts of an advert from a local newspaper. Explain what the three underlined terms are referring to.

i. Dot Matrix Printer, 24 Pin, Narrow, **413 CPS**, Connects Via Parallel ...

ii. Laser Printer, **1200 x 1200 dpi**, **30 ppm**, 16 MB RAM, 300 Sheet Input Capacity

413 CPS: _____

1200 x 1200 dpi: _____

30 ppm: _____

[3]

- (b) Give **one** reason why the Dot Matrix printer is still in use nowadays.

Reason: _____

[1]

- (c) **Give** and **explain** one main difference between an ink-jet printer and a laser printer.

Difference: _____

[1]

- 10** (a) Images can be categorized either as **Vector images** or **Raster images**.

- i. Describe the terms Vector Image and Raster Image.
- ii. Give the name of a **peripheral** which produces a Vector Image.

Vector Image: _____

Raster Image: _____

Peripheral: _____

[3]

- (b) Give the name of an **input or output** device that may be used by a person with special needs. Explain how the device may be helpful to such a person.

Device: _____

Explanation: _____

[2]

- 11** (a) **Bookmarks, URL** and **Search Engines** are Internet related terms. Briefly explain the three terms.

Bookmarks: _____

URL: _____

Search Engines: _____

[3]

- (b) i. What is electronic mail?
ii. Explain **one advantage** that electronic mail has over traditional mail.

Electronic mail: _____

Advantage: _____

[2]

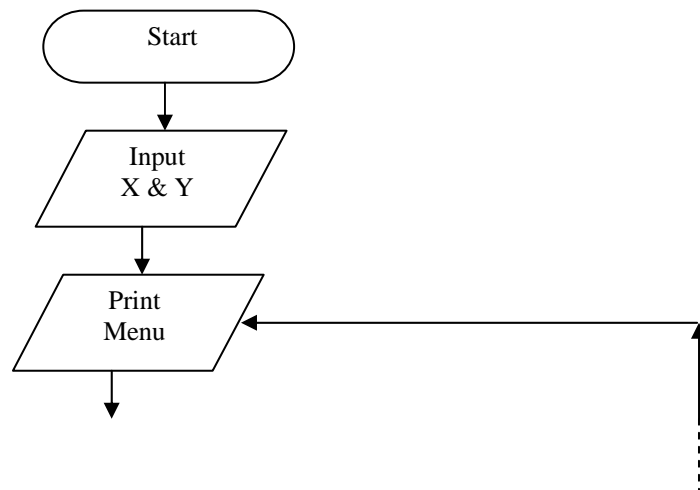
Section B – Answer BOTH Questions

- 12 (a) Before solving a problem it must be **defined** and **analyzed**. Describe some of the steps taken to define and analyze a problem. [4]

- (b) The drawing below shows an incomplete flowchart. Copy and complete the **flowchart** to design the solution for the following problem:

- Two numbers X and Y are **input**
- A **menu** is output which asks the user to choose an option (OP) from **Multiplication (M)**, **Division (D)**, **Addition (A)**, **Subtraction (S)** or **Exit (E)**.
- According to the chosen menu option the result is worked out and the answer shown
- The process of outputting the menu is repeated until the user chooses option E from the menu

If an option other from 'M', 'D', 'A', 'S' or 'E' is chosen, the error message 'Wrong option, please try again!' is shown and returns back to display the menu. [9]



[11]

- 13 (a) i. The following are four keyboard keys: **Shift**, **Tab**, **Enter** and **Backspace**. Give their function as used in word processing.
- ii. **Indentation**, **headers/footer** and **table of contents** are three common features found in modern word processors. Briefly describe the three features.
- (b) i. Describe the purpose of using a Spreadsheet package and NOT a Word Processor.
- ii. Give **one** advantage of using the Spreadsheet rather than using tables in a word processor.
- iii. What is the difference between a **formula** and a **function** as used in a spreadsheet.
- iv. The picture below shows part of a worksheet for the earnings of a Computer Shop for the years 2006 and 2007.
1. What **formula** or **function** must be written in cell B10?
 2. What **formula** must be written in B12?
 3. Name and sketch a chart that can be used to visualize the data in the cell range A3 to C8.

[7]

	A	B	C	D
1	XYZ Computer Store			
2				
3		Yr 2006	Yr 2007	
4	CD	2,000	1,575	
5	DVD	2,525	3,575	
6	Floppies	565	225	
7	RAM	1,440	2,600	
8	Pendrives	576	1,254	
9				
10	Total Earnings			
11				
12	Difference in Totals			
13				
14				

[8]