JUNIOR LYCEUM ANNUAL EXAMINATIONS 2002

Educational Assessment Unit – Education Division

Form 3 Option	**COMPUTER STUDIES**	Time: 1:30 hrs.

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 flowchart templates is permitted.
*Calculators may **NOT** be used.*
Good English and orderly presentation are important.

For office use only:

Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Paper Total	Course Work	Final Mark
Max	5	5	5	5	5	5	5	5	5	5	5	15	15	15	15	85%	15%	100%
Mark																		

Section A – Answer ALL questions.

1. A computer is a digital **electronic**, information **processing** machine that runs a software **program** to solve a specific problem.

Explain briefly the terms in bold:

a) electronic: _____

_____ [1]

b) processing: _____

_____ [1]

c) program: _____

_____ [1]

Besides Input, Process and Output, a computer can perform other tasks or functions. Name **one** other task or function and give a brief description:

d) Function/task: _____

Description: _____

_____ [2]

2   Draw a **block diagram** in the space provided below to show how a simple computer system is organized. Label your diagram with the following terms:

CPU, Input Device, Output Device, Secondary (back-up) Storage.

Show how data flows between the units by drawing arrowhead lines (⟶).

[5]

3   Explain briefly the **difference** between the following terms:

a)   information and data: _____ [1]

_____

b)   binary and decimal : _____ [1]

_____

c)   application program and system program: _____ [1]

_____

d)   OMR and OCR : _____ [1]

_____

e)   ROM and RAM: _____ [1]

_____

4.   Answer the following questions:

a)   How many bits are there in one **byte**? _____ [1]

b)   How many bytes are there exactly in one **kilobyte**? _____ [1]

c)   How many bytes are there in one **megabyte**: _____ [1]

d)   What unit is used to **measure** computer memories? _____ [1]

e)   What is a computer **word length**? _____ [1]

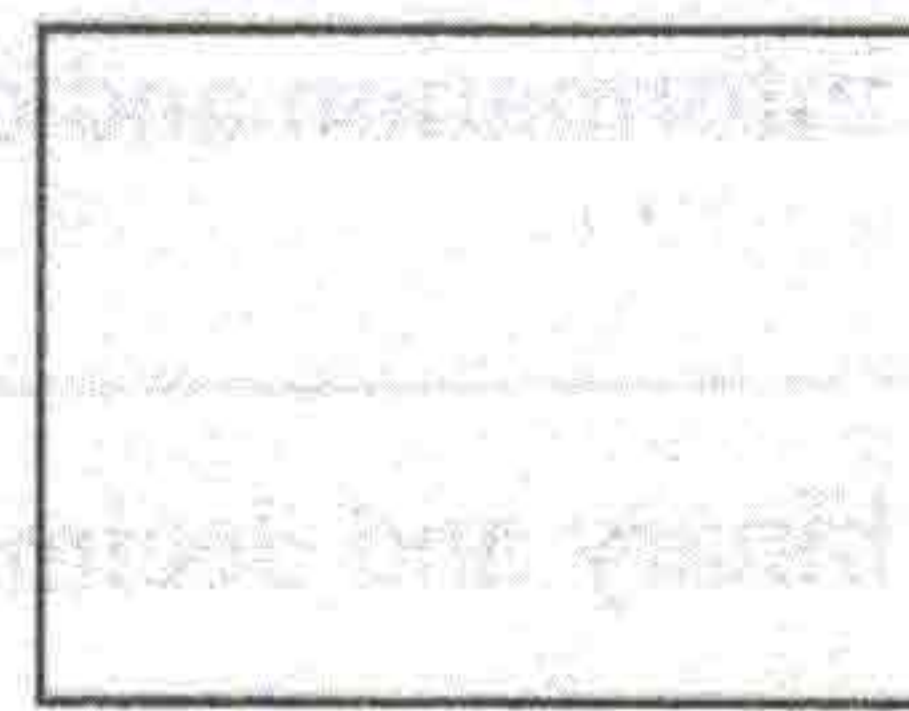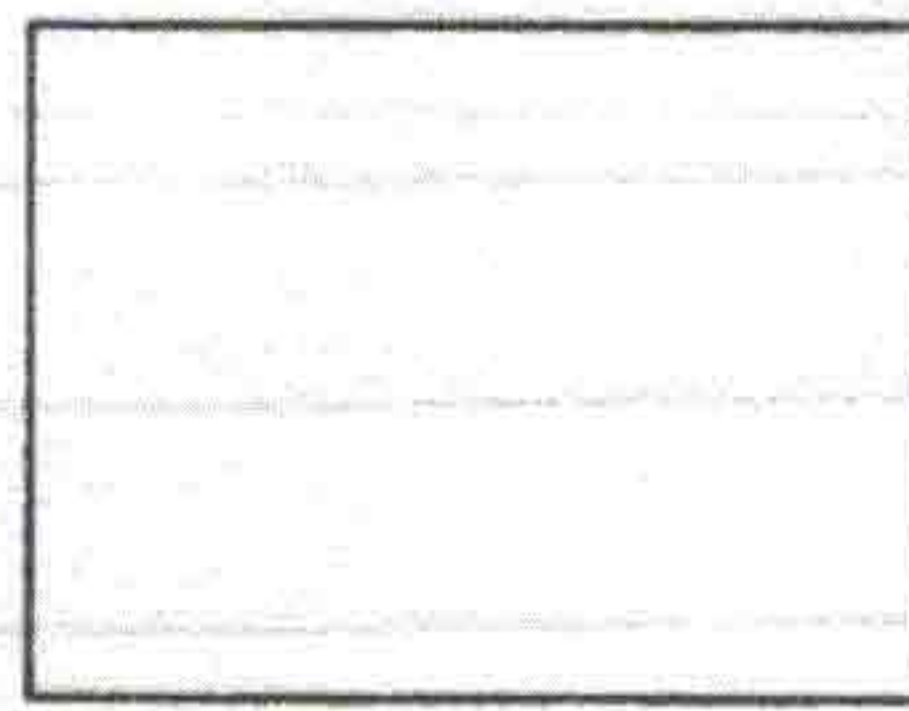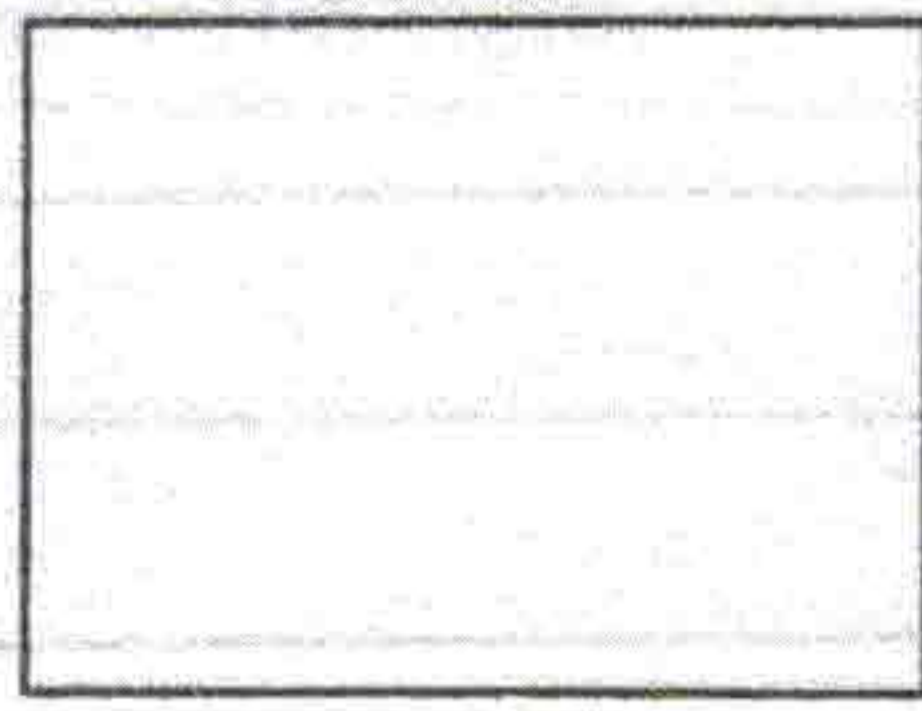5.   Use **five** of the following terms to complete the passage below:

| magnetic | picture element | more | vector |
| less | raster | graphic | paint |

A _____ device produces output based on simple geometric

shapes while a _____ device produces output based on pixels. A

pixel means _____ which is the smallest unit of

_____ display on a VDU. Raster graphics take up _____

memory space.   [5]

6 a) Draw the symbol of the **AND, OR** and **NOT** logic gates:

AND   OR   NOT   [3]

b) Fill in the **Truth Tables** for the **AND** and the **OR** gates:

A	B	A AND B
0	0	
0	1	
1	0	
1	1	

A	B	A OR B
0	0	
0	1	
1	0	
1	1	

[2]

7 a) **Explain** briefly the following terms and give one **example** for each:

   i)   analogue: _____

   _____

   example: _____   [2]

   ii)   digital: _____

   _____   [2]

   example: _____

   b) What device changes analogue signals to digital and vice-versa: _____ [1]

8 With reference to **electronic mail** (e-mail), answer the questions below:

   a) What do you understand by **e-mail**? _____ [1]

   _____

   b) What is an **inbox**? _____ [1]

   _____

   c) Why is a **password** required when accessing your e-mail? _____ [1]

   _____

   d) Give **one** advantage of using e-mail over the normal postal system:

   _____ [1]

   e) Give **one** disadvantage that an e-mail system may have:

   _____ [1]

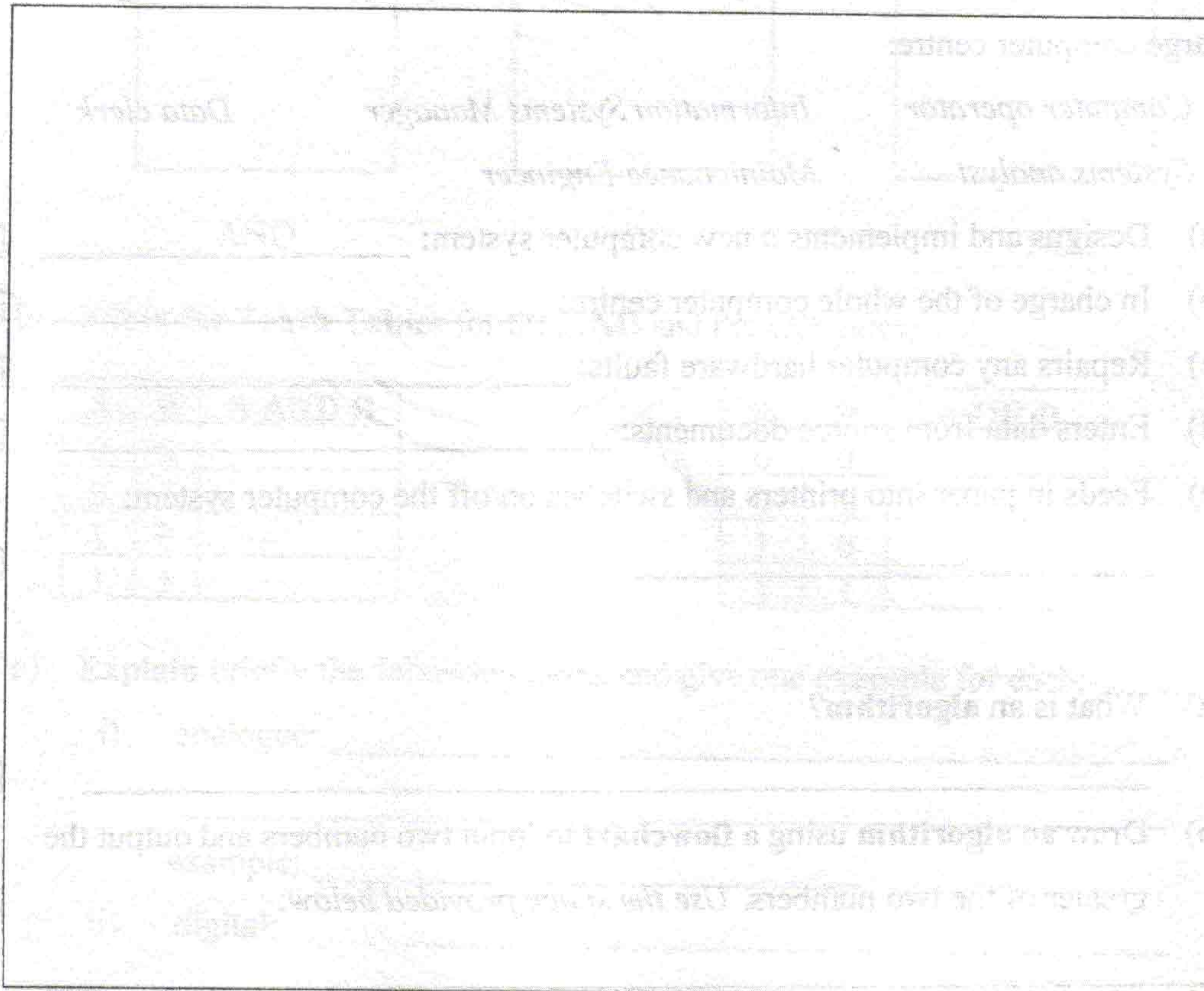9 Use the terms below to identify the different **roles of persons** working at a large computer centre:

Computer operator   *Information Systems Manager*   *Data clerk*

Systems analyst   *Maintenance Engineer*

a) Designs and implements a new computer system: _____ [1]

b) In charge of the whole computer centre: _____ [1]

c) Repairs any computer hardware faults: _____ [1]

d) Enters data from source documents: _____ [1]

e) Feeds in paper into printers and switches on/off the computer system:

_____ [1]

10 a) What is an **algorithm**?

_____ [1]

b) Draw an **algorithm** using a **flowchart** to input two numbers and output the greater of the two numbers. *Use the space provided below*: [4]

Flowchart for algorithm:

11 Write a program using Pascal to input two integer numbers and output their sum and difference. [5]

Section B – Answer any TWO questions on separate foolscaps

12 Answer the following questions with reference to a spreadsheet program.

a) Why is a spreadsheet program more suitable for **mathematical** calculations than a word processor? [1]

b) **Describe briefly** two examples for which a spreadsheet may be used. [2]

c) What do you understand by a spreadsheet **function**? [2]

d) Why is **naming a range** of cells useful? Give an example of a named range of cells used in a formula. [2]

e) What use is made of a spreadsheet when it is linked to a word processing **mail merge** operation? [2]

f) What does **replicate** mean? Why is this useful? [2]

g) A spreadsheet can produce **graphs** (charts) very easily. Name two types of graphs and draw a simple diagram for each. [2]

h) **Explain why** using a spreadsheet program is better than using an electronic calculator. [2]

13 The **Internet** has become popular world wide. Answer the following questions regarding the Internet.

 a) What do you understand by the term "**Internet**"? [1]

 b) Explain clearly the difference between the terms '**browser**' and a '**search engine**'. [2]

 c) What is the difference between **uploading** a file and **downloading** a file? [2]

 d) What is the use of a '**favorites**' or '**bookmarks**' feature of an Internet browser? [2]

 e) What do the following **abbreviations** stand for?

   i) URL

   ii) ISP

   iii) WWW [3]

 f) Why is an **ISP** required for an Internet connection? [1]

 g) What is **hypertext**? [1]

 h) Explain one **disadvantage** when using the Internet. [1]

 i) Describe **two** examples for which you found the **Internet useful**. [2]

14 a) Explain the difference between **serial access** and **direct access.** [1]

 b) Give one example of an **application** that is most suitable for:

   i) serial access

   ii) direct access [2]

 c) Draw a diagram to show how data is organized on a magnetic disk. (Use the terms **track** and **sector**). [2]

 d) Give a typical **application** for the following devices:

   i) Scanner

   ii) Bar code reader

   iii) Magnetic Ink Character Reader (MICR) [3]

e) What is **a touch pad**? On which type of computer is a touch pad normally found? [2]

f) Explain briefly the use of a **digital camera** and name one typical application for it. [2]

g) Give an example of one **back-up storage device** .
Why do we make back-up copies of important data? [2]

h) Name one device that produces a **hard copy**. [1]

15 A **word processor** program is one of the most widely used applications. It has several advanced features especially when typing long documents. **Answer** the following questions with reference to a word processor. Use **diagrams** to help you in your answers when suitable.

a) Explain carefully the use of **Headers and Footers**. [2]

b) What are **styles**? [2]

c) A word processor can produce easily a **Table of Contents**. What is a Table of Contents and why is it useful? [2]

d) What do you understand by an **Index**? [2]

e) Give two advantages of using a **Table** in a Word Processor. [2]

f) Draw a simple diagram to show how a page with **multicolumns** looks like. [1]

g) Explain how you can do any **one** of the following features using a word processor with which you are familiar.

    i)   Headers and Footers

    ii)   Styles

    iii)   Index

    iv)   Multicolumns [2]

h) How can a word processor make the **work** of a school secretary easier? [2]