



NCC EDUCATION
INTERNATIONAL FOUNDATION YEAR
INTRODUCTION TO COMPUTING
JANUARY 2013

CANDIDATES MUST ANSWER ALL THE QUESTIONS
PLEASE READ ALL THE QUESTIONS CAREFULLY

TIME: 2 HOURS

PLEASE DO NOT WRITE ON THIS EXAM PAPER

CANDIDATES MUST ANSWER ALL QUESTIONS

QUESTION 1	Marks
a) i) Define the term <i>software</i> .	2
ii) Define the term <i>system</i> .	2
b) Explain the difference between <i>analogue</i> and <i>digital</i> data.	2
c) i) Explain what <i>system software</i> is.	2
ii) Name TWO (2) examples of operating systems.	2
Total 10 Marks	

QUESTION 2

a) i) Define the term <i>byte</i> .	2
ii) State how many different values can be stored in a 1 byte storage location.	1
b) Describe how a floating point number is stored in computer memory.	3
c) i) State the purpose of the ALU in a computer processor.	2
i) State the purpose of the program counter in a computer processor.	2
Total 10 Marks	

QUESTION 3

a) i) Explain what a bit mapped graphic is.	2
ii) State TWO (2) factors that affect the size of a bit mapped graphic file.	2
iii) Explain why bit mapped images sometimes do not enlarge well.	2
b) Explain why vector graphics can sometimes be a better way to store an image than a bit mapped graphic.	2
c) Explain why movies are compressed when sent over internet connections.	2
Total 10 Marks	

QUESTION 4

Marks

- | | | |
|----|--|---|
| a) | Define the term database. | 2 |
| b) | i) Define the term <i>serial file</i> . | 1 |
| | ii) Describe how a new item is added to a <i>serial file</i> . | 2 |
| | iii) Define the term <i>sequential file</i> . | 1 |
| | iv) Describe how a new item is added to a <i>sequential file</i> . | 4 |

Total 10 Marks

QUESTION 5

- | | | |
|----|--|---|
| a) | i) Explain what is meant by a client-server network. | 3 |
| | ii) Describe a bus network. | 2 |
| | iii) Describe TWO (2) disadvantages of a bus network. | 2 |
| b) | Explain how a cyclic redundancy check deals with data transmission errors. | 3 |

Total 10 Marks

END OF PAPER