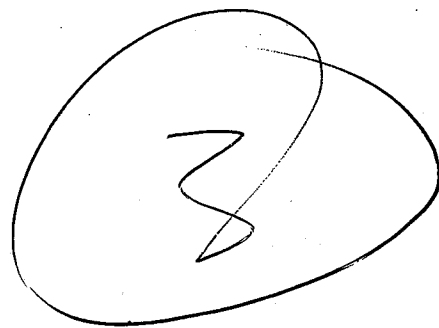




ZIMBABWE



MINISTRY OF HIGHER AND TERTIARY EDUCATION

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

HIGHER NATIONAL DIPLOMA

IN

INFORMATION TECHNOLOGY

SUBJECT: Visual C++ (Theory)

PAPER NO: 710/S05A

NOVEMBER 2011 EXAMINATION

REQUIREMENTS

INSTRUCTIONS TO CANDIDATE

Answer all questions.

This paper consists of 3 printed pages.

QUESTION 1

Write short program segments of your choice that demonstrates the application of the following:-

- a) The while construct
- b) The for construct
- c) The switch statement
- d) Nested if construct
- e) The do while construct (20 marks)

QUESTION 2

- a) Explain the meaning of the following terms with the aid of a valid program code where necessary.
 - i) Encapsulation
 - ii) Scope resolution operator
 - iii) Struct
 - iv) Class
 - v) Base class (15 marks)
- b) Briefly explain why you would prefer visual C++ to C++ when developing applications. (5 marks)

QUESTION 3

- a) With the aid of an example explain the purpose of the following special characters as used in VC++/C++ programming
 - i) %
 - ii) I I
 - iii) &&
 - iv) !=
 - v) - - (10 marks)
- b) Explain the purpose of the following string manipulation functions using valid examples where possible.
 - i) `int strcmp (const char * S1; const char * S2);`
 - ii) `char * strcat (char * desc, char * src);`
 - iii) `char *strupr (char * s);`
 - iv) `char *strlwr (char * s)`
 - v) `int strlen (const char * s);` (10 marks)

QUESTION 4

- a) Discuss why popular trends in software engineering are moving away from the structured approach to the object oriented approach. (10 marks)
- b) Briefly discuss the following concepts in VC++ programming using examples where possible.
- i) Function prototyping (5 marks)
 - ii) Function overloading (5 marks)

QUESTION 5

- a) i) Declare a structure called student with the following members
- Student number
 - Course
 - Level
- (5 marks)
- i) Write a function that will initialize the structure declared in 5a(i) above to the following values:
- | | | |
|----------------|---|-----------|
| Student number | = | 553 |
| Course | = | computers |
| Level | = | NC |
- (5 marks)
- ii) Create a function called “display data” to display values initialized in the function above on the output screen. (5 marks)
- b) Briefly explain the concept of inheritance. (5 marks)

..../pm

struct (student)