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MINISTRY OF HIGHER AND TERTIARY EDUCATION

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL CERTIFICATE

IN

INFORMATION TECHNOLOGY

SUBJECT: Programming Using C++ PAPER NO: 317/S02

NOVEMBER/DECEMBER 2010 EXAMINATION

REQUIREMENTS

INSTRUCTIONS TO CANDIDATE

Answer ALL questions.

This paper consists of 4 printed pages.

MS/2010

QUESTION 1

State and explain any five common coding practices that software developers should adhere to in order to produce applications that are compatibles, portable and easy to maintain. (10 marks)

QUESTION 2

What is the purpose of each of the following operators as used in C++ programming.

- | | | | |
|---------|--------|----------|-----------|
| (i) // | (ii) # | (iii) <> | (iv) << |
| (v) \n | (vi) % | (vii) == | (viii) /= |
| (ix) :: | (x) >> | | |
- (10 marks)

QUESTION 3

Distinguish between the following terms as used in C++ programming.

- (i) Continue and break.
 - (ii) While loop and do loop.
 - (iii) If statement and switch statement.
 - (iv) One dimensional array and two dimensional array.
 - (v) Int main () and void main ()
- (10 marks)

QUESTION 4

Develop a C++ program that reads a set of integer numbers from the keyboard and store them in an array. The program should then search for the largest value and display it on the screen. Assume that the numbers are not ordered in the array. (15 marks)

QUESTION 5

Develop a program to find the factorial of a given number using functions. To do this your program should have: main () function fact and () function. (15 marks)

QUESTION 6

Define the following terms as used in C++ programming. Give syntax and examples to enhance your answer where you see necessary.

- | | |
|-------------------------|-----------|
| (i) Mutator function | (2 marks) |
| (ii) Inspector function | (2 marks) |
| (iii) Polymorphism | (2 marks) |
| (iv) Class | (2 marks) |

defines data structures and the routines of a class

maintain

maintain

remainder

int array I
int N = 100
int largest = 0
↓

- | | | |
|--------|----------------------|-----------|
| (v) | Struct | (2 marks) |
| (vi) | Access specifier | (2 marks) |
| (vii) | Source code | (2 marks) |
| (viii) | Constructor function | (2 marks) |
| (ix) | Destructor function | (2 marks) |
| (x) | Initialization | (2 marks) |

member function that
creates new objects
cleans up

QUESTION 7

In the following program the identifier "i" is used for three distinct variables. Study the program and explain its Logic and show the output of this program.

```
# including < 10.stream>
Using namespace std;
Void funct (int i);
Int i = 1;
funct (2);
Cout << "i=" << "in function main \n";
} void funct (int i)

{
i = i * 10;
{
int i;
i = 3;
Cout << " i ='<< i << "In compound";
}
Cout<< i=" << i<< "In funct \n",
}
```

(10 marks)

QUESTION 8

The following program contains 10 errors. Indentify them and explain the error.

In your answer state line number and describe the error. (10 marks)

1. # include < iostream > ①
2. using namespace; ②
- 3.
4. # define size 100 ③
- 5.
6. class stock ④
7. {
8. stck [size];
9. Int top ;
10. public :: ⑤
11. void initialise (); ✓

```
12. void push (int i);
13. int pop ();
14. } 4
15.
16. void stack::initialise (); ⑧
17. {
18.   top = 0;
19. }
20.
21. void stack::push (double i)
22. {
23.   if (top == size)
24.   {
25.     cout << "stack is full \n" ⑨
26.     return; ③
27.   }
28.   stck [top] = i;
29.   top ++;
30. }
31. } ⑩
```

***** .../lk