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University Examinations 2013/2014

STAGE 2, EXAMINATION FOR DIPLOMA/CERTIFICATE IN INFORMATION
TECHNOLOGY

DIT 0204: INTRODUCTION TO OBJECT ORIENTATION

DATE: APRIL 2014

TIME: 1½ HOURS

INSTRUCTIONS: Answer questions *one* and any other *two* questions

QUESTION ONE - (30 MARKS)

- a) With sample code explain the following terms as used in object orientation. (10 marks)
 - i. Class
 - ii. State
 - iii. Behavior
 - iv. Message passing
 - v. Inheritance
- b) Give FOUR reasons why oriented programming paradigm object is popular with software developers. (6 marks)
- c) Given that $sum = 3$ and $x=3$, what is the final value of y and sum from the following code segment? (4 marks)

```
Sum +=x;
Y=++x;
```
- d) Using a do while loop, write a program that can produce the following output.(6 marks)
0 2 4 6 8 10
- e) Write a program that can display your name. (4 marks)

QUESTION TWO – (15 MARKS)

- a) Inheritance is a key feature in object orientation; state the benefits of inheritance in software development. (3 marks)
- b) Write a program with class, person and class student to illustrate inheritance in object oriented programming. (12 marks)

QUESTION THREE – (15 MARKS)

- a) State seven characteristics of arrays. (7 marks)
- b) Declare and initialize a multidimensional array. (3 marks)
- c) Write a program that can display the following table. (5 marks)

1	2	3
4	5	6
7	8	9
10	11	12

QUESTION FOUR (15 MARKS)

- a) Illustrate the three control structures of selection within a C++ program by use of simple code. (10 marks)
- b) What is a constructor? (2 marks)
- c) State the characteristics of a constructor. (3 mark)

QUESTION FIVE (15 MARKS)

- a) Differentiate between the assignment and the equal to operators in C++. (2 marks)
- b) Analyze the following code and state the value of sum. (4 marks)
Int a, b sum;
a = 4;
b = 5;
a+ = 4;
b+ =5;
sum = a+b;
- c) Explain the use of relational and logical operators. (4 marks)
- d) Write a program that accepts 3 numbers from the keyboard, finds the sum and average and display the result. (5 marks)