



**INSTITUTE OF
ADVANCED
TECHNOLOGY**

DIPLOMA EXAMINATIONS 2014

**SEMESTER II EXAMINATIONS FOR THE DIPLOMA IN ICT
MANAGEMENT**

DICT 0206: OBJECT ORIENTED PROGRAMMING IN C++

DATE: 10TH APRIL, 2014

TIME:4:30- 6:30 PM

Instructions to Candidates

- Answer **ALL** Questions in **Section A** and Any other **TWO** from **Section B.**
- Write your registration number on all the answer sheets used.
- Use a **NEW PAGE FOR EVERY QUESTION** attempted, and indicate the question number on the space provided on each page of the answer sheet.
- Fasten together all loose answer sheets used.
- Switch off all Mobile Phones and PDAs.

SECTION A: COMPULSORY QUESTION {20 MARKS}

QUESTION 1

- a. Explain the following object oriented concepts as used in C++ **(4 Marks)**
- i. Polymorphism
 - ii. Class
 - iii. Object
 - iv. Encapsulation
- b. Outline five advantages of OOP **(5 Marks)**
- c. Define the term access specifier **(1 Mark)**
- d. Explain any three access specifiers used in c++ **(3 Marks)**
- e. Write a simple c++ program that captures a single integer from a user, evaluates whether the number is odd or even and prints out the results **(4 Marks)**
- f. State three categories of programming errors **(3 Marks)**

SECTION B: ANSWER ANY TWO QUESTIONS {10 MARKS EACH}.

QUESTION 2

a) Differentiate between the following terms. **(4 Marks)**

- i. Structure and function
- ii. Derived data type and system data type.

b. Write a c++ program that uses a class to calculate the volume of a cube **(6 Marks)**

QUESTION 3

a. Explain any two control structure categories **(4 Marks)**

b. A bank has requested that you design a code that would enable users to withdraw the money from ATM by typing numerical values from 1-4.

- 1 for kshs 1000
- 2 for kshs 2000
- 3 for Kshs 3000
- 4 for Kshs 4000

Write a c++ program that implements a switch statement to provide the functionalities indicated above. **(6 Marks)**

QUESTION 4

a. Briefly describe the inheritance concept **(2 Marks)**

b. List and explain any two types of inheritance **(2 Marks)**

c. c. With the help of a working code differentiate between a base class and a derived class.
consider using shape and rectangle as your classes **(6 Marks)**

End of Exam