



EASTERN UNIVERSITY, SRI LANKA
DEPARTMENT OF MATHEMATICS
EXTERNAL DEGREE PROGRAM IN SCIENCE – 2007/2008 &
2008/2009 (July/August, 2015)
EXTMT 206 – OBJECT ORIENTED PROGRAMMING TECHNIQUES

Answer all questions

Time: 2 Hours

Q1.

- a) State what is meant by *Object Oriented Programming*.
- b) Give five examples for *Intangible objects*.
- c) Define the following terms regarding the Object Oriented Methodology:
 - i. Encapsulation;
 - ii. Data Abstraction.
- d) Briefly describe the following class or member modifiers:
 - i. public;
 - ii. private;
 - iii. protected.

Q2.

- a) Define the C++ function and give its general form.
- b) What is the difference between *Local variable* and *Global variable* in C++?
Also, give suitable C++ code to illustrate both.
- c) List four special characteristics of constructor.

d) Find the output of the following C++ program:

```
#include<iostream.h>
void main ( )
{
    int Track [ ] = {10, 20, 30, 40}, *Striker ;
    Striker=Track ;
    Track [1] += 30 ;

    cout<<"Striker"<<*Striker<<endl ;
    Striker -=10 ;
    Striker++ ;
    cout<<"Next@"<<*Striker<<endl ;
    Striker+=2 ;
    cout<<"Last@"<<*Striker<<endl ;
    cout<< "Reset To" <<Track[0] <<endl ;
}
```

Q3.

- a) State clearly what is meant by *Data Abstraction*.
- b) What is meant by an *Operator Overloading*?
- c) Briefly describe the following type conversions in C++ with suitable examples
 - i) Implicit conversion;
 - ii) Explicit conversion.
- d) Write a sample C++ program to overload binary + operator.

Q4.

- a) Define what is meant by *inheritance* and give its general format.
- b) Briefly describe the following types of *inheritance*:
 - i) multilevel inheritance;

- ii) hierarchical inheritance.
- c) State any five advantages of inheritance.
- d) Write a program to open a file "External.dat" in C++ and write the following into the file.

"This is only a Special Repeat Examination"

"Nothing can go wrong"

"All things are fine..."