QQI
HIGHER DIPLOMA IN SCIENCE IN COMPUTING

FINAL EXAMINATIONS
APRIL 2016 INTAKE

Module Code: **B8IT117**

Module Description: **Object Orientated Programming**

Examiner: **Mr Damien Kettle**

Internal Moderator: **Dr Shazia A Afzal**

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Date: *Monday, 25th July 2016*
Time: *10am – 12pm*

INSTRUCTIONS TO CANDIDATES

Time allowed: 2 hours

Total: 100 marks

QUESTION 1 IS COMPULSORY (30 marks)

Answer any 2 other questions (35 marks each)

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Question 1 – Compulsory – 30 Marks

a) Explain the following by providing appropriate examples for each of them.
   i.   Overriding
   ii.   Interface
   iii.   Access Modifiers
   iv.   Abstract Class

(4 *5 = 20 marks)

b) Polymorphism, Inheritance and Encapsulation are considered the three pillars of
   programming. Explain any one in detail using C# examples.

(10 marks)
(Total: 30 marks)

Question 2 - 35 Marks

An Irish company has four clothes shops in different cities of Ireland which are Dublin,
Galway, Limerick and Sligo.

a) To maintain the records of sales for these shops, develop a Windows Application in
   C# that allows the user to enter the records using the following form.

(5 marks)

To develop this application, you have to perform the following tasks:

b) Develop an enum Location and populate the Combo Box for Shop Location on the form with enum Location.

(8 marks)

c) Develop a C# class Shop with the following specification:
- ShopCode (property)
- ShopLocation (property) – use enum
- Sales (property)
- A ToString() method to return all details of Shop.

d) When the user clicks the button "Add to List" on the form, shop instance should be created from the details given on the form and the shop instance must be added to an object of generic list of type Shop (List<Shop>).

(10 marks)

e) When the user clicks on the "Show All Records" on the form, all records must be shown on a different form in a Data Grid View control.

(10 marks)
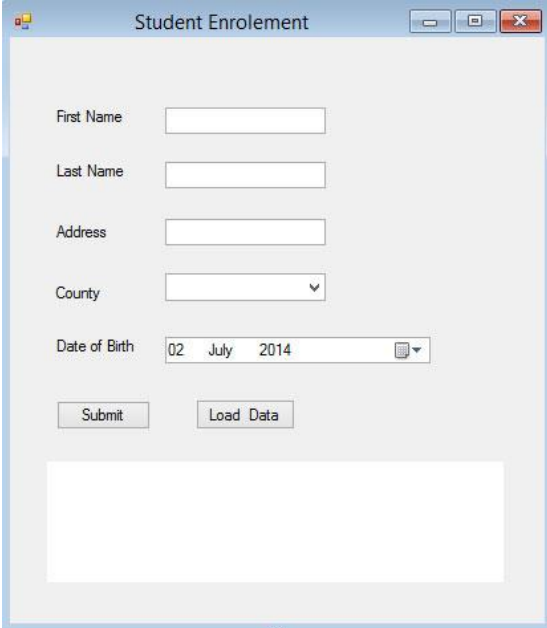
f) When the user clicks the "Quit", the form should close.

(2 marks)

(Total: 35 marks)

Question 3 - 35 Marks

A local college has tasked you with creating a Student Enrolment Form written in C#.
The form must contain the following controls;

- ✓ Textbox (First Name)
- ✓ Textbox (last Name)
- ✓ Textbox (Address)
- ✓ ComboBox (County)
- ✓ DateTimePicker (DOB)
- ✓ Submit Button
- ✓ Load Button
- ✓ Label to display data

- ✓ Correct naming convention of controls

(5 marks)

When the submit button is clicked the data in the field will be saved to this location as a CSV file. C:\test\example.csv

(15 marks)

When the Load Data Button is clicked the program will load the CSV file and populate the display label.

(15 marks)

(Total 35 marks)

Question 4 – 35 Marks

1. Create the following Windows form, include a Groupbox for the "add contact" controls.

    (5 marks)

2. Create two additional classes called;
    - Contact class to hold the properties.

    - ContactList class to hold the list.

    (5 marks)

3. When the user enters data and clicks add contact the data will be saved to a list<>

    (10 marks)

4. When the display contacts button is clicked the list will display data in the listbox.

    (10 marks)

5. Include an override ToString method in the Contact class.

    (5 marks)

    (Total 35 marks)

End of Exam