



ICT 2017

OOP EXAMINATION

<i>Module Code:</i>	B8IT117
<i>Module Description:</i>	Object Oriented Programming
<i>Examiner:</i>	Damien Kettle
<i>Internal Moderator:</i>	Rory O'Donnell
<i>External Examiner:</i>	Dr Paul Stynes

Date: 13th of November
Time: 18:30-20:30

INSTRUCTIONS TO CANDIDATES:

Time allowed is 2 hours.

QUESTION 1 IS COMPULSORY

Answer any 2 other questions.

Question 1 – Compulsory – 30 Marks

a) Explain the following by providing appropriate examples for each of them.

- i. Sealed Class
- ii. Struct
- iii. Access Modifiers
- iv. Abstract Class

(4 *5 = 20 marks)

b) What is Polymorphism? Giving 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.

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

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>).

e) When the user clicks on the “Show All Records” on the form, all records must be shown on a different form.

f) When the user clicks the “Quit”, the form should close.



(Total 35 marks)

Question 3 – 35 Marks

Create the following Windows form (BMI Calculator) which will perform a BMI calculation from input of Metric Weights and Measures.

Formula: $\text{weight (kg)} / [\text{height (m)}]^2$

- ✓ Label “BMI Calculator”
- ✓ GroupBox “Enter Information”
- ✓ Textbox (Weight)
- ✓ Textbox (Height)
- ✓ Label (Input Weight)
- ✓ Label (Input Height)
- ✓ Calculate Button
- ✓ Label “BMI Score”
- ✓ Label “Remarks”

The screenshot shows a Windows form titled "Form1" with a standard Windows title bar (minimize, maximize, close buttons). The form has a light gray background. At the top, there is a label "BMI Calculator" in a stylized, multi-colored font. Below this, there is a group box titled "Enter Information" in green. Inside the group box, there are two labels: "Input Weight in KGs" and "Enter height in Cm", both in green. Each label is followed by a white text box. Below the text boxes, there is a button labeled "Calculate BMI" in green. At the bottom of the form, there are two labels: "BMI Score" and "Remarks", both in purple. Below each label is a yellow rectangular area for output.

(35 marks)

Question 4 - 35 Marks

Create the following windows form;

- Add to Listbox: will add a name to the list
- Remove for listbox: will remove a name selected
- Clear Listbox: will remove all names
- Count items: A full count of the list
- Search: Will search the list.

(35 marks)