



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2017/2018

**SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN INFORMATION
TECHNOLOGY MANAGEMENT**

MAIN CAMPUS

CIM 211: OBJECT BASED PROGRAMMING IN VISUAL BASIC

Date: 20th February, 2018

Time: 8.30 - 11.30 am

INSTRUCTIONS:

- Answer ALL questions in SECTION A and any other TWO from SECTION B
- Write your registration number on all sheets of the answer book used.
- Use a NEW PAGE FOR EVERY QUESTION attempted, and indicate number on the space provided on the page of the answer sheet.



SECTION A -COMPULSORY

QUESTION ONE: (30 MARKS)

- a) Explain the two main components of the dot net framework and discuss their functions [4 marks]
- b) Differentiate the following terms as used in Visual programming [4 marks]
 - (i) Class and object
 - (ii) Variable and constant
- c) Write one line of code to perform the following tasks:-
 - (i) Display text “Programming is great” to a label; **lblTest**
 - (ii) To clear text from a Text Box1.Text
 - (iii) Add items “Apple”, “Mango”, “Orange” to a Combo Box1.
 - (iv) Setting focus in a text box **txtCourses.Text** [8 marks]
- d) (i) Write a Visual Basic code to calculate the area of a semi-circle .Use the Inputbox() function to enter the value of the radius . Declare PI as a constant. The Area may be displayed in a textbox or a label [5 marks]
 - (ii) List two components on which Data Access in ADO.NET relies on [2marks]
 - (iii) Write a syntax for declaring a 2 dimensional array in VB.Net language. [2 marks]
- e) (i) Explain the term **exception** as used in visual basic programming [2 mark]
 - (ii) Use the following statement to rewrite the code that follows. [3 marks]

Statement:

Try

.....

Catch ex As Exception

.....

End Try

Code:

Dim x As Integer

Dim y As Integer

Dim answer As Integer

x = 7.5

y = 3

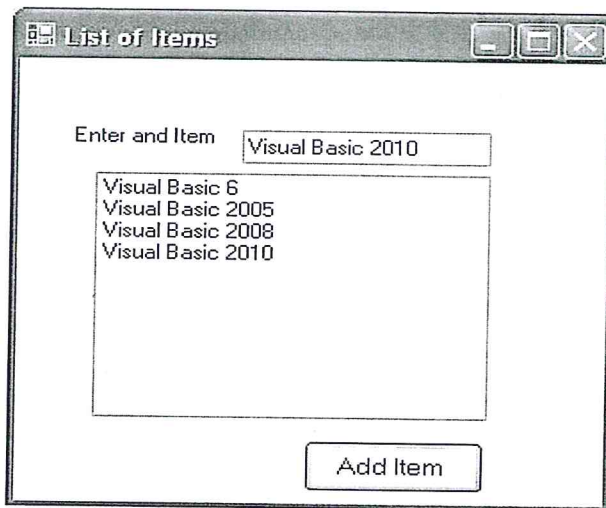
answer = x * y

TextBox1.Text = answer

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

- a) Explain using examples the following controls as used in programming.
 - i) If.....then
 - ii) Do WhileLoop
 - iii) Select case
 - iv) For.....Next [8 marks]
- b) Consider the ListBox below in which items can be added through the textbox



Task: Write the code to add items to the list box above [2 marks]

- c) (i) Differentiate between public and private procedures [4 marks]
 (ii) Write a program that uses an array data structure to store unit marks for 10 students, and
 Computes the Total marks of all students and also the mean score of the students [6marks]

QUESTION THREE (20 MARKS)

- a) Write a windows application to accept inputs for the dimensions of a rectangle through an input box and then computes the area and perimeter of the rectangle; the result should be displayed in a message box. [6 marks]
- b) A Visual Basic form has the following specifications:
 Contains a command button which when clicked calculates the sum of the first six terms in the following series. 1,3,5,7,9. And the Sum is displayed on a message box.
 i) Sketch the GUI for the program [2 marks]
 ii) Write the program code to accomplish the task above. [4 marks]
- c) (i) Define an array as used in visual basic.NET. [2 marks]
 (ii) What is the meaning of the following statement [2marks]
`Dim Array(12) as integer`
 (iii) Write a program that can add an element to an array list and get its length [4 marks]

QUESTION FOUR (20 MARKS)

- a) Write some simple code that can display a grade in a message box, given the marks through a textbox txtTest, using the following grading system. Use Select...Case [6 marks]

Marks Grade

0 - 49	Fail
50 - 64	Pass
65 - 74	Credit

75 – 100 Distinction
Any Other Invalid

- b) The form below is used to calculate the average of two Exams. Write the code for Calculate, Clear and Quit actions.

[6 marks]

The image shows a screenshot of a Visual Basic form window. The title bar reads 'Form5'. The form itself has a title 'AVERAGE EXAM CALCULATOR'. It contains three text boxes: 'Exam One', 'Exam Two', and 'Average'. Below the text boxes are three buttons: 'Calculate', 'Clear', and 'Quit'.

- c) Describe the four component classes that each data provider of ado.net consists of

[8 marks]

QUESTION FIVE (20 MARKS)

- a) Using suitable examples, explain a data type in visual programming [2 marks]
- b) Explain three types of errors encountered in visual basic programming [6 marks]
- b) Write a program that uses a function Add to get the sum of two numbers, 5 and 10 [6 marks]
- c) (i) Write a program that uses the For.... Next Loop to generate numbers between 1 and 10 and finds their sum [4marks]
- (ii) Rewrite the program in c (i) using the Do....Until loop. [2 marks]