TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BSIT/SEP/2014/ Y2S2 , BSIT/SEP/2013/J Y3S2

BIT2206: APPLICATION PROGRAMMING II

END OF SEMESTER EXAMINATION

SERIES: APRIL2016

TIME: 2HOURS

DATE: Pick DateSelect MonthPick Year

Instructions to Candidates
You should have the following for this examination
-Answer Booklet, examination pass and student ID
This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.
Do not write on the question paper.

Question ONE

a. Explain the purpose of a requirements specification. **(3 MARKS)**

b. Provide, with a brief explanation, three (3) characteristics of RAD. **(9 MARKS)**

c. Provide TWO (2) advantages of value types as opposed to reference types.**(4 MARKS)**

d. While writing a program to store student marks Ali uses the assignment operator to assign a reference type to another. State and explain the type of potential error his code may have. **(3 MARKS)**

e. State one similarity and one difference between a property and a method in Visual Basic.

   (4 MARKS)

f. Illustrate how you would go about adding a button to a form that creates two object variables of type clsMyClass().Write Visual Basic code to instantiate a new instance of the class in one of the variables. Then set the second variable to reference the same object

and print the contents of the Height property to the Output window or display it in a message box.	**(7 MARKS)**

Question TWO

a.	List and explain four (4) constraints of RAD.	**(12 MARKS)**

b.	When using Rapid Application Development (RAD), in order to ensure high responsiveness, projects are designed with fixed timescales, sacrificing functionality if necessary. This allows the development team to focus on the pieces of functionality that have the highest business value, and deliver that functionality rapidly. There is often a tradeoff between three factors; schedule, economy and product quality. These tradeoffs determine the pace of development. Elaborate on any approach the developers may take and its effects on the three factors.	**(8 MARKS)**

Question THREE

a.	Explain what a namespace is, giving an example of any used in Visual Basic.**(3 MARKS)**

b.	Examine the following code listing:

Dim myObject As Object

myObject.PrintDetails ()

    i.	Explain why this piece of code will produce a runtime error when executed

        (3 MARKS)

    ii.	Rewrite the code so as to eliminate the error.	**(4 MARKS)**

c.	Explain the steps you would undertake to create a small Visual Basic project which cycles through the Controls collection of a form and tells you the value of the Height property of every control on the form. In your answer include any necessary code. **(10 MARKS)**

Question FOUR

a.	When writing your programs you avoid creating recursive events.

    i.	Illustrate a situation that would cause a recursive event.	**(4 MARKS)**

    ii.	State when a recursive event will terminate	**(3 MARKS)**

b.	When programming, there are instances you need Read Only properties.

    i.	Explain what you understand a Read Only property to be.	**(3 MARKS)**

    ii.	Show how you would create one in Visual Basic.	**(10 MARKS)**

Question FIVE

a. Show all the steps, and write any necessary code for the following case.

    a. Create a new project that connects to a Contacts database. Put a list box on the form, and fill the list box with the names of the people in the database.

        (12 MARKS)

Write the Visual Basic code of the Click event of an Add button in the application you created in (i) that first tests whether the user entered a contact name. If not, tell the user that a name is required, and then exit the procedure. **(8 MARKS)**