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**University Examinations 2014/2015**

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

**CIT 3278: APPLICATION PROGRAMMING 11**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Briefly explain why vb.net is an Object Oriented Programming language (OOP) (3 marks)
2. State any three characteristics of data item. Give example using vb.net (6 marks)
3. Discuss any two key factors that influenced design and implementation of dotnet programming languages. Discus structure of basic visual studio dotnet components

(9 marks)

1. Explain how data validation is enforced in application development using vb.net. Illustrate using any three components (6 marks)
2. Using a simple diagram discuss basic ADO.net object model (6 marks)

**QUESTION TWO (20 MARKS)**

1. Explain the process of a developing simple library information system application in vb.net (5 marks)
2. Outline the process of creating a general procedure in vb.net (3 marks)
3. A GUI is required to allow the user calculate the area and the circumference of a circle in VB.net. The user is to type the value of the radius in a textbox. When the user clicks a command button, the area and the circumference should be displayed in other textboxes.
4. Sketch a suitable GUI for the above and write down the properties that you would set for all the controls in the above GUI and their values (3 marks)
5. Write a function that receives the radius and returns its area (3 marks)
6. Write a procedure that receives the area and the circumferences and output them. (3 marks)
7. Write the appropriate click event procedure for the GUI. The procedure should call the above functions (3 marks)

**QUESTION THREE (20 MARKS)**

1. Describe any three data access object and give two properties of each object in vb.net. (6 marks)
2. Explain general structure of class definition in vb.net. Discuss any four parameters in class definition (8 marks)
3. A database in drive C named student administration.mdb is contained in a directory named registration system. Use the ADO.net programming model to create initiate and open the connection and recordset objects. A table named student is used and all the fields are selected (6 marks)

**QUESTION FOUR (20 MARKS)**

1. Explain any three data access components used in vb.net. (6 marks)
2. Differentiate between single and multiple document interfaces used in application development (4 marks)
3. Discuss role of any three predefined dialog boxes (6 marks)
4. Explain how you can trap division by zero errors in vb.net program (4 marks)

**QUESTION FIVE (20 MARKS)**

1. Give a general structure of declaring a variable and a constant. Give examples in each case (4 marks)
2. Differentiate between a sub procedure and a function. Give examples in reference to computing area of circle (4 marks)
3. Briefly explain any three user interface design principles. (6 marks)
4. Describe how you can develop general application such as notepad (6 marks)