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University Examinations 2012/2013

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

BIT 2206: APPLICATION PROGRAMMING II

DATE: AUGUST 2013   TIME: 2 HOURS

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

QUESTION ONE – 30 MARKS

a. List and explain the three main software design and modeling methods.   (6 Marks)
b. Use suitable examples to explain the four commonly used naming conventions fro identifiers.
                                                                                 (4 Marks)
c. Discuss the three main software testing techniques.   (4 Marks)
d. With the use of a flow diagram, design a student admission process for university applicants.
                                                                                 (4 Marks)
e. Discuss any four common types of programming errors.   (4 Marks)
f. Explain the workings of the visual basic dot.net framework.   (4 Marks)
g. Write a "Hello World" program to demonstrate the vb.net code structure.   (4 Marks)

QUESTION TWO – 20 MARKS

a. With the use of visual basic.net syntax and a flow diagram, explain the following control
   structures:
      i.   For …. Next loop   (2 Marks)
     ii.   Do…. While loop   (2 Marks)
     iii.   Select Case statement   (2 Marks)
     iv.   If-Then statement   (2 Marks)

b. Distinguish between a variable and a constant as applies in the vb.net programming. (4 Marks)
c. Discuss the features and limitations of the following:
      i.   Procedural programs.   (2 Marks)
     ii.   Structural programs   (2 Marks)

d. Visual basic.Net is Object Oriented", support or discredit this statement.   (2 Marks)

QUESTION THREE – 20 MARKS

a. List and explain the types of application programs which can be developed using visual Basic.Net.
    (4 Marks)
b. List and discuss the main user interface design guidelines for GUI applications.   (6 Marks)
c. Define the following terms from a Visual Basic.Net perspective:
    i.   An object   (2 Marks)
    ii.   A class   (2 Marks)
    iii. A method   (2 Marks)
    iv.   Encapsulation   (2 Marks)
    v.   Inheritance   (2 Marks)

QUESTION FOUR – 20 MARKS

a. Discuss the pros and cons of rapid application development.   (4 Marks)
b. Explain the usage of the following as applied in Visual Basic.Net programming.
    i.   Macros   (2 Marks)
    ii.   ActiveX Controls.   (2 Marks)
    iii. OLE   (2 Marks)
    iv.   SQL   (2 Marks)
    v.   ASP   (2 Marks)
    vi.   4GL   (2 Marks)
c. Distinguish between dynamic and static data exchange.   (4 Marks)

QUESTION FIVE – 20 MARKS

a. Identify and explain four fundamental object types used in visual Basic.Net programming.
    (4 Marks)
b. With the use of SQL syntax to perform the following tasks:
    i.   Make a table to hold student percentage scores and grades.   (2 Marks)
    ii.   Generate reports on:
          •   The highest scoring student   (2 Marks)
          •   The total number of student at each grade.   (2 Marks)

c. Discuss the three main conversion techniques in software development.   (6 Marks)
d. List and explain any four software quality requirements.   (4 Marks)