This question paper contains 4+2 printed pages]

Roll No. |__|__|__|__|__|__|__|__|__|__|__|

S. No. of Question Paper : **8360**

Unique Paper Code : **234563**   **C**

Name of the Paper : **CSCT-501 : Database and Visual Basic**

Name of the Course : **B.Sc. Programme Part III**

Semester : **V**

Duration : **3 Hours**   Maximum Marks : **75**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Part A is of 35 marks and is compulsory.

Attempt any *four* questions from Part B.

Part A

1. (*a*) Describe Derived-Attribute of an entity in a database with example.   (2)

    (*b*) Define third normal form of a relation.   (2)

    (*c*) Mention any *four* limitations of a file system over a database management

          system.   (2)

    (*d*) Differentiate between data and information.   (2)

2. (*a*) How do you translate business rules into data model components ?   (2)

(b) Define super key.   (1)

(c) Describe "Product Operator" with example.   (3)

(d) How is a relationship between entities indicated in an ER Diagram ? Give an example, using the Crow's Foot notation.   (4)

3.   (a) Differentiate between functions and sub-procedures in Visual Basic.   (2)

(b) What is "ME" in Visual Basic ? Where can it be used ?   (2)

(c) Write a code in Visual Basic to display your date of birth in a message box using DateTimePicker control.   (2)

(d) Explain different ways of reading a text file.   (2)

4.   (a) What is the use of GroupBox control ?   (2)

(b) Write short notes on any *two* of the following :   (5)

(i)   Access key

(ii) Method

(iii) Class

(c) Explain the control LinkLabel.   (2)

Part B

5. (a) Explain the process of conversion of a relation to second normal form. (3)

   (b) What are update anomalies ? (2)

   (c) Differentiate between the following : (5)

       (i) Label and TextBox

       (ii) Fixed and Dynamic Array.

6. (a) Briefly describe Cardinality and Connectivity with example. (4)

   (b) Can multiple forms be added to a project ? Describe a way to switch between forms in a project. Write a statement in Visual Basic to hide the current form by using the ME object and to display a hidden form. (4)

   (c) Differentiate between the radio button and check box. (2)

7. (a) A database consists of the following tables : (5)

       Menu(Dish#, Dish_description, Price)

       Order(Bill#, Dish#, Quantity)

       Bill(Bill#, Table#, Date, Waiter#, Total_amt_paid, Tip)

Write queries for the following :

(*i*)   Get the description for all the dishes that are served on "12/10/2012".

(*ii*) Get the dish description, quantity and total amount paid for all the dishes.

(*b*) Explain *two* ways of passing arguments in Visual Basic with example.   (3)

(*c*) Explain the significance of the statements "Option Explicit Off" and "Option Infer On".   (2)

8. (*a*) With respect to an educational institution the following observation have been made :

• It is engaged in imparting education to students in several courses.

• It has several teaching departments according to various subjects.

• It has core faculty belonging to one of its teaching departments.

• Each course consists of several papers. Each paper belongs to a particular teaching department.

• Each paper is characterized by its name, maximum marks, number of lectures per week and the department to which it belongs.

You are required to analyze and conceptualize above organizational reality using ER Model and depict the same as ER diagram using Crow's Foot notation.   (5)

(b) What are ADO controls in Visual Basic ? What is the Connection String Statement ? (5)

9. (a) Write a program in Visual Basic to generate the fibonacci series for *n* numbers. Read the value of *n* using InputBox. (5)

(b) Why are entity integrity and referential integrity important in a database ? (3)

(c) Describe any *two* data types supported by SQL. (2)

10. (a) Rewrite the given block of code in Visual Basic using Select Case statement (2)

```
IF K = 0 THEN

    C = A * B

ELSEIF (K >= 1) OR (K <= 10) THEN

    C = A / B

ELSEIF (K = 11) OR (K = 12) THEN

    C = A - B

ELSE

    C = A + B

ENDIF
```

(*b*) Which functions are used : (3)

    (*i*)   to compare two strings

    (*ii*)   to convert a number into a string

Explain them with their formats.

(*c*) Differentiate between the three major database models. (5)