

This question paper contains 4 printed pages]

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S. No. of Question Paper : 103

Unique Paper Code : 234563

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Name of the Paper : Database and Visual Basic

Name of the Course : B.Sc. (Physical Science)

Semester : V

Duration : 3 Hours

Maximum Marks : 75

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

Section A is compulsory.

Attempt any *Five* questions from Section B.

Section A

(Compulsory)

1. (a) Explain, briefly, the *four* major characteristics of DBMS. 4
- (b) Define the following : 2
 - (i) Data model
 - (ii) Attribute.
- (c) Explain Entity-Relationship Model, in brief. 2
- (d) Give *one* example each of simple attribute and composite attribute. 2
- (e) State the *three* data anomalies that are likely to be the result of data redundancy in a database. Briefly explain any *two* of them. 1+2
2. (a) Name any *three* properties commonly used with all controls, and state their purpose. 3
- (b) Define VB module. 1

P.T.O.

- (c) Differentiate between text files and executable files. 2
- (d) What are the *two* primary types of procedures in VB ? 2
- (e) Name the property to be used for the following action : 4
- (i) To delete items from a listbox
- (ii) To hide a control on the form at runtime
- (iii) To allow change in the size of control at runtime
- (iv) To change the background color of the label control.

Section B

(Attempt any five)

3. (a) Define the following terms : 6
- (i) Relation
- (ii) SQL
- (iii) Domain.
- (b) Define foreign key. Why is it required in database ? 2+2
4. (a) Define Second Normal Form. 2
- (b) Explain transitive dependency within attributes of a table. 2
- (c) Write the SQL statements for the following queries using the given schema : 2×3

SHIPMENT SCHEMA

SUPPLIER (SNO, Sname, Address)

PARTS (PNO, Pname, Price, Color)

SUPPLIED (SNO, PNO, Qty)

- (i) Find supplier details whose name starts with 'A'.

- (ii) Find supplier names supplying part with PNO = 'P1'.
- (iii) Find details of part not supplied by any supplier.
5. (a) Define Entity integrity constraint and give example. 2+1
- (b) What is the use of system catalog in database ? 3
- (c) Explain the following relational algebra operators : 2×2
- (i) UNION
- (ii) JOIN.
6. Explain the usage of the following terms in VB : 5×2
- (i) OPTION EXPLICIT
- (ii) REDIM
- (iii) UBOUND
- (iv) PUBLIC
- (v) FORM.
7. (a) Write a program to accept a number and display its square on click of a button. Write all controls used with their name and initial property set. 6
- (b) Write VB command to highlight a control (e.g. label 1) at runtime. 2
- (c) Write the IF-ELSE statement to display 'Positive' or 'Negative' depending on the value of an Integer n. 2
8. (a) Differentiate between the following. Also give examples : 2×4
- (i) do loop and while loop
- (ii) msgbox and inputbox.

- (b) Find the value of variable R if the function is called as **R = compute(10)** where function compute() is defined below : 2

Function compute (By Val n As Integer) As Integer.

```
Dim i, result As Integer
```

```
result = 1
```

```
For i = 1 To n Step 2
```

```
    result = result * i
```

```
Next
```

```
Return result
```

```
End Function
```

9. (a) Write the VB statement for the following : 4
- (i) To display * character while entering password in textbox named Textbox1.
 - (ii) To add any new item (say 'abc') in listbox control named listbox1.
 - (iii) To declare an array (named A) to store 10 integers.
 - (iv) To initialize text value in a label control named label1 to 'Hello'.
- (b) Differentiate between the following : 2×3
- (i) Structural Independence and Data Independence
 - (ii) Primary Key and Super Key.