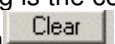**Informatics Practices (065)**
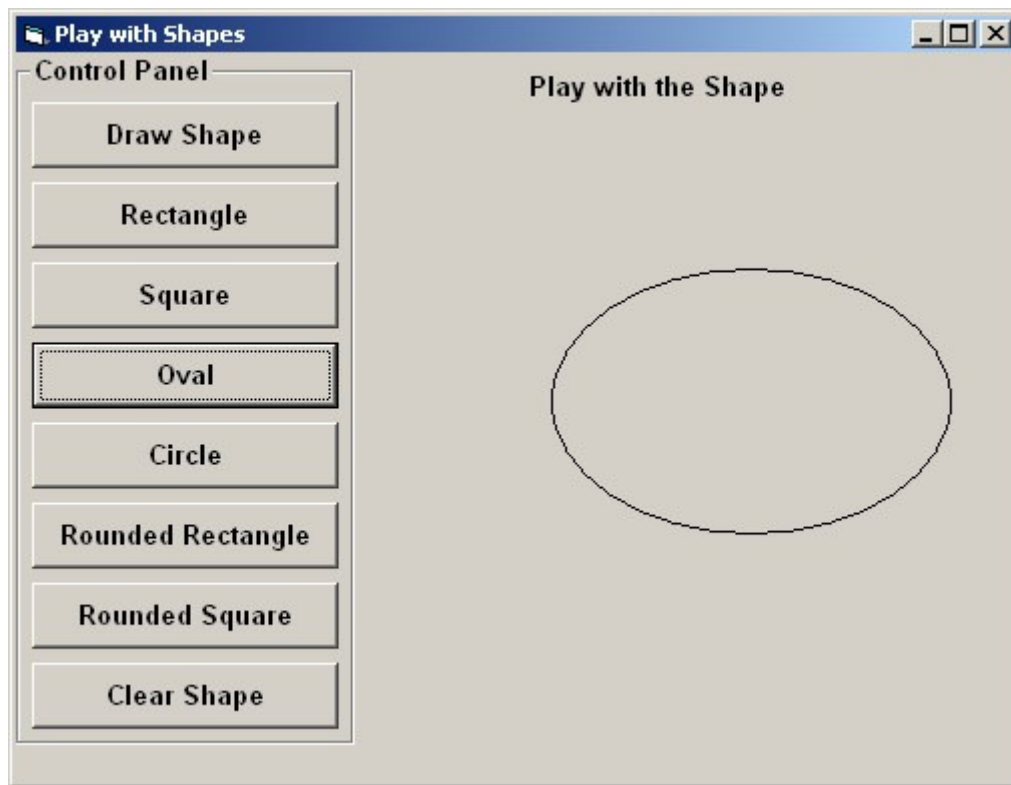**Sample Question Paper –3**

Note
1. This question paper is divided into three sections.
2. All questions are compulsory.
3. Section – A consists of 30 marks.
4. Section – B and Section – C are of 20 marks each
5. Answer the questions after carefully reading the text.

Section – A			
Q 1.	Answer the following questions:		
	(a)	Give one major difference between Front End technology and Back End Technology in terms of Software Projects. Give one example of each.	2
	(b)	Differentiate ER Modeling and Object Modeling Techniques.	2
	(c)	Define the following terms in the context of Database (i) Relation (ii) Tuple	2
	(d)	Name two areas in industries where business computing can be applied. Describe application of business computing in those industries.	4
Q2	Answer the following questions:		
	(a)	How do we specify comments in visual basic? How do we break a long line of code to a new line?	2
	(b)	Write the steps in Program Solving Methodology. Give a suitable example showing use of Problem Solving Methodology.	4
	(c)	Explain the following Terms (i) Modular Programming (ii) Object Oriented Programming (iii) Event Driven Programming (iv) RAD	4
Q3	Answer the following questions:		
	(a)	State the differences between SQL and PL/SQL.	2
	(b)	Differentiate between Cursors and Triggers.	2
	(c)	"NULL is not Equal to a NUL" do you agree with the statement. State reason.	2
	(d)	What are PL/SQL blocks? How many types of PL/SQL block definition exist? Explain with suitable examples.	4

Section – B	
Q4	Read the following case study and answer the questions that follows:

Rahul Gautam, a class VII student just got introduced to Visual Basic and made a Pager Simulating Application in it. The following picture is showing the execution state of the application. Look at the picture and help in getting rid of some problems he is getting at the time of execution.

Pager Instrument

123456

Clear   Cancel

1 2 3
4 5 6
7 8 9
* 0 #

Page Now

Switch Off

Problem 1: The user normally uses mouse to operate the pager application but sometimes if a non-numeric character is pressed on keyboard, the application does not stop it and allows that also.

Problem 2: The text box **txtPage** is showing numeric digits Left aligned as shown in picture but they are required to be right aligned.

Problem 3: Following is the code showing function of cmdClear command button(Clear Button [Clear] in the picture)

```
Private Sub cmdClear_Click ()
 txtPage.Text=Mid (txtPage.Text,1 ,Len(txtPage.Text)-1)
End Sub
```

The problem arises in case the user clicks on the clear button and there is nothing written in the text box txtPage.

	(a)	Write the code statement required to be given in the Click Event of command button Switch Off to close the application. The name of this object is cmdSwitchOff.	1
	(b)	Write the code statement to clear the text box txtPage to blank text box on clicking cmdCancel command button (Cancel button in the picture)	1
	(c)	Write the code statement for cmdPageNow command button (**Page Now** button in the above Picture) to show a Message Box displaying "Message Sent" and call the cancel button after this operation.	2
	(d)	Write the code statement to solve Rahul's problem 1 by disabling keyboard entry at execution time. Also suggest that where to place this code so that it gets executed before the main form is shown.	2
	(e)	Write the code statement to solve Rahul's problem 2 and place the code in form load event of frmPager.	2
	(f)	Modify the code of cmdClear button given above for not processing the clear operation if the textbox is blank.	2
Q5			

Mr. C D Sharma learnt elementary visual basic programming and started making an application for his 7-year-old kid. He made an application for viewing different type of shapes. Initially he designed the basic application as shown below.

Object Type	Object Name	Description
Form	frmPlayForm	The Main Form Object
Command Button	cmdDrawShape	Command buttons to draw the respective shapes and clear the form.
	cmdRectangle	
	cmdSquare	
	cmdOval	
	cmdCircle	
	cmdRoundedRectangle	
	cmdRoundedSquare	
	cmdClearShape	
Label	lblPlayWithShape	
Shape	shpPlay	The Shape object.

Now he wants to exercise some control over the command buttons displayed in the form. His requirements are listed as below

Requirement 1: Enable Draw Shape command button and disable all other Command Button Controls in the beginning. Also the form should not have any shape displayed.

Requirement 2: On Clicking Draw Shape command button, all the command buttons except Draw Shape command button should be enabled.

Requirement 3: On clicking command buttons Rectangle, Square, Oval, Circle, Rounded Rectangle, Rounded Square the respective shape should be displayed.

Requirement 4: On Clicking Clear Shape command button the status of requirement 1 should be resumed.

	(a)	Write a procedure DrawShape to set the properties of shape object shpPlay as height = 2000, width = 3000 , top = 1500 and left = 4000. The shape should be displayed after setting these parameters.	2
	(b)	Write a procedure DisableControl to disable the controls as per requirements in 1 and 3.	2
	(c)	Write a procedure EnableControl to enable the controls as per requirement in 2.	2
	(d)	Write code for requirement number 3	2
	(e)	Write the code statement required for requirement number 4	2

Section C

6	Answer the following questions	

	(a)	``` DEPTNO DNAME LOC```	2

(a)
```
DEPTNO DNAME          LOC
------- -------------- ----------
    10 ACCOUNTING     NEW YORK
    20 RESEARCH       DALLAS
    30 SALES          CHICAGO
    40 OPERATIONS     BOSTON
```

Look at the above Dept table and give the output produced by the following PL/SQL code on execution:

```
DECLARE
        v_DeptID        Dept.DeptNo%TYPE := 10;
        v_Department    Dept.DName%Type;
        v_Counter       NUMBER (2) := 1;
BEGIN
LOOP
        SELECT DName INTO v_Department FROM Dept WHERE DeptNo = v_DeptID ;
        DBMS_OUTPUT.PUT_LINE (v_Department);
        v_DeptID = v_DeptID + 10
        v_Counter = v_Counter + 1
        EXIT WHEN v_Counter >3;
END LOOP;
END;
```

(b) Write the output of the following PL/SQL code segment
```
DECLARE
        x CHAR(3) := 'ABC';
        i NUMBER;
BEGIN
        FOR i IN 1..3
        LOOP
                DBMS_OUTPUT.PUT_LINE (SUBSTR (x, -3, i));
        END LOOP ;
END;
```
2

(c) Write the output of the following PL/SQL code segment
```
BEGIN
   FOR i IN REVERSE 1..10
   LOOP
        IF MOD (i, 2)=0 THEN
                DBMS_OUTPUT.PUT_LINE (TO_CHAR (i*10));
        END IF;
   END LOOP;
 END;
```
2

(d) Write a SQL function MyAddition which will accept two arguments of number type and returns the sum of both values.
4

7	Use the following structure of Customer table to answer the following questions	

Column Name	Cust_ID (Primary Key)	Cust_Name	Cust_Add1	Cust_Add2	Pin_Code	Cust_Phone	
Data type	NUMBER	VARCHAR2	VARCHAR2	VARCHAR2	NUMBER	VARCHAR2	
Length	7	30	20	30	6	10	

	(a)	Write the SQL Command to create the above table including its Constraints	2
	(b)	Write a PL/SQL code to modify all the CUST_PHONE numbers by joining '2' before each phone number if it contains 7 characters.	2
	(c)	Write a PL/SQL code to modify all the CUST_PHONE numbers by removing '2' if it starts with '2'.	2
	(c)	Write PL/SQL code to create two Statement level triggers TrigBeforeUpdateCustomer and TrigAfterUpdateCustomer before and after UPDATE statement respectively on the table Customer which signals 'Starting Update' to signify that modification of records has started and 'End of Update' message to signify that modification is over.	4