

Blue Print Of Question Paper
Informatics Practices (Theory) Code : 065
Class XII

	Knowledge			Understanding			Application			Total Marks
	LA (Marks 4)	SA (Marks 2)	VSA (Mark 1)	LA (Marks 4)	SA (Marks 2)	VSA (Mark 1)	LA (Marks 4)	SA (Marks 2)	VSA (Mark 1)	
Business computing		4(2)			4(2)			2(1)		10 marks
Visual basic Programming		4(2)		8(2)	4(2)		8(2)	4(2)	2(2)	30 marks
RDBMS (SQL and PL/SQL)	4(1)	2(1)		12(3)	2(1)		8(2)	2(1)		30 marks
										70 marks

Long Answer (4 marks) : 10 questions 40 marks
Short Answer (2 marks) : 14 questions 28 marks
Very Short Answer (1 mark) : 2 questions 2 marks
Total : 70 marks

Design of Question paper
Informatics Practices (Theory Code : 065)
Class XII

TIME : 3 Hrs

MM : 70

Weightage of different topics/units

SNO	UNIT	MARKS
1	Business Computing	10
2	Programming: Visual Basic	30
3	Relational database Management System	30

Difficulty level of Questions

SNO	DIFFICULTY LEVEL	PERCENTAGE OF MARKS
1	Easy	15%
2	Average	70%
3	Difficult	15%

Weightage to different forms of questions

SNO	Types of Questions	Number of questions	Total Marks
1	Very Short Answer (1 mark)	2	2
2	Short Answer(2 marks)	14	28
3	Long Answer (4 marks)	10	40
	Total		70

Informatics Practices (Code : 065)
Sample Question Paper - I
Class XII

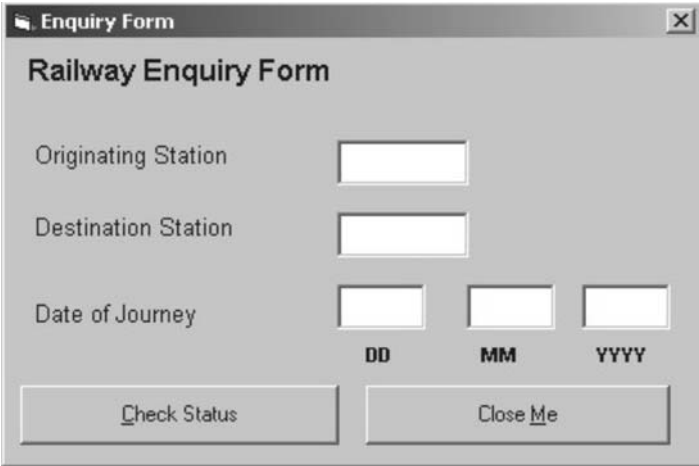
TIME : 3 Hrs

MM : 70

Note

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

No.	Questions	Marks
Section - A		
Q 1.	<p>Answer the following questions:</p> <p>(a) Expand the following abbreviations:</p> <p style="margin-left: 20px;">i) OSS</p> <p style="margin-left: 20px;">ii) GNU</p> <p style="margin-left: 20px;">iii) W3C</p> <p style="margin-left: 20px;">iv) FOSS</p> <p>(b) Compare Front end and Back end with respect to software.</p> <p>(c) Give one example to show how Data Mining is useful.</p> <p>(d) Write the purpose of feasibility study conducted during System Development Life Cycle.</p> <p>(e) Identify the type of relationship represented by the following statements and draw an entity relationship diagram to show it.</p> <p>"Each item must have one and only one price. Each price may be for more than one item"</p>	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
Q2	<p>Answer the following questions:</p> <p>(a) Write names of any two popular Relational Database Management Systems.</p> <p>(b) Define SQL. List three subcategories of SQL commands giving one example of command in each category.</p>	<p>2</p> <p>4</p>

No.	Questions	Marks
Q3	(c) Distinguish between Decision Control and Looping Control Structure giving one example each of commands provided by PL/SQL for both these types of control structures.	4
	Answer the following questions:	
	(a) What is an Event? Name an Event Driven programming language.	2
	(b) Differentiate using a suitable example, between MsgBox () and InputBox () functions in Visual Basic	4
Q4	(c) Differentiate between ADODB project reference and ADO DC in a form using suitable Example	4
	Section - B	
Q4	Read the following case study and answer the questions that follow:	
	<p>Mr Nath of Quick Solution Software Corporation has got requirement of a Software Project from a Customer in Tours and Travel Business. He performed the preliminary analysis and found that software Application should be based on Client/Server technology. He opted for Visual Basic Language to develop the front end. Given below is one of the forms to enquire about railway reservation. Carefully observe the following picture.</p>	
		

No.	Questions		Marks	
	The List for the above form is as follows:			
	Object Type	Object Name	Description	
	Form	frmEnquiryForm	The Main Form Object	
	Label	lblOriginatingStation lblDestinationStation lblDateOfJourney LbIDD LbIMM lbYYYY		
	Text Box	txtOriginatingStation txtDestinationStation TxtDD txtMM txtYYYY	To enter a string type value To enter a string type value To enter a Date To enter a numeric value of month To enter a numeric value of Year	
	Command Button	cmdCheckStatus cmdCloseMe	To check Status of Ticket Availability To close the form frmEnquiryForm	
Q5	<p>(a) Write the value for the Caption property of the Object cmdCheckStatus.</p> <p>(b) Write the code snippet for cmdCloseMe Command Button if it is required to close the form on its Click event.</p> <p>(c) Write a code snippet so that the user can enter only number in the DD field.</p> <p>(d) Write a procedure to check for the validity of the entered date value. Clear the text boxes for invalid date value and set the focus on txtDD.</p> <p>(a) Find the output of the following when the command button with caption command1 is clicked:</p> <pre> DIM X as integer PRIVATE SUB command1_click() PRINT "Hello" CALL First(45) PRINT "Bye" </pre>		<p>1</p> <p>1</p> <p>4</p> <p>4</p> <p>2</p>	

No.	Questions	Marks
	<pre> END SUB PRIVATE SUB First(Num as Integer) X = 10 PRINT X PRINT Num*X End sub </pre> <p>(b) Rewrite the following code using SELECT.. CASE without effecting the output of the code:</p> <pre> DIM Total as INTEGER Total = VAL(text1.text) IF Total >= 75 THEN Grade = "A" ELESEIF Total >=50 THEN Grade = "B" ELSEIF Total >= 33 THEN Grade = "C" Else Grade = "D" End if </pre> <p>(c) Rewrite the corrected code after removing syntax errors from the following VB Code:</p> <pre> DIMENSION Total AS INT Total=30.0 DO WHILE 20 >= Total Total=Total-5 End Do PRINT Total </pre>	<p>2</p> <p>2</p>

No.	Questions	Marks																														
	<p>(d) Rewrite the following code using FOR..NEXT without affecting the output:</p> <pre>Dim Num As Integer Num = 1 DO WHILE Num <= 5 Num = Num + 1 PRINT num ; LOOP</pre> <p>(e) Write the output that the following code segment :</p> <pre>Msg = "Technology" PRINT MID(LTRIM(Msg),1,4)+ " and " +" Kids" PRINT (3 > 8 * 2) AND (3 ^ 2 < 10) PRINT VAL("100 Ways") + LEN(Msg) PRINT INSTR(Msg,"log")</pre>	<p>2</p> <p>2</p>																														
6	<p style="text-align: center;">Section C</p> <p>Answer the questions (with respect to SQL and PL/SQL):</p> <p>(a) Write a SQL (DDL) query to create the following table Employee</p> <table border="1" data-bbox="196 1323 1390 1671"> <thead> <tr> <th>Column Name</th> <th>Data Type</th> <th>Size</th> <th>Constraint</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>EmpID</td> <td>NUMBER</td> <td>6</td> <td>PRIMARY KEY</td> <td></td> </tr> <tr> <td>EmpName</td> <td>VARCHAR2</td> <td>20</td> <td>NOT NULL</td> <td></td> </tr> <tr> <td>EmpAddress</td> <td>VARCHAR2</td> <td>30</td> <td></td> <td></td> </tr> <tr> <td>EmpPhone</td> <td>VARCHAR2</td> <td>10</td> <td></td> <td></td> </tr> <tr> <td>EmpSal</td> <td>NUMBER</td> <td>9,2</td> <td></td> <td></td> </tr> </tbody> </table> <p>(b) Write PL / SQL Code to increase the salary of all the employees by some percentage amount accepted from the user.</p> <p>(c) Write program code to declare and use an Explicit Cursor to display the Salary increased by 10%.</p>	Column Name	Data Type	Size	Constraint	Description	EmpID	NUMBER	6	PRIMARY KEY		EmpName	VARCHAR2	20	NOT NULL		EmpAddress	VARCHAR2	30			EmpPhone	VARCHAR2	10			EmpSal	NUMBER	9,2			<p>2</p> <p>4</p> <p>4</p>
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7	<p data-bbox="217 304 1134 338">Assume that you are provided with the following two tables :</p> <p data-bbox="217 365 395 398">Table: Dept</p> <table border="1" data-bbox="268 421 1315 712"> <thead> <tr> <th>DEPTNO</th> <th>DNAME</th> <th>LOC</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>ACCOUNTING</td> <td>NEW YORK</td> </tr> <tr> <td>20</td> <td>RESEARCH</td> <td>DALLAS</td> </tr> <tr> <td>30</td> <td>SALES CHICAGO</td> <td></td> </tr> <tr> <td>40</td> <td>OPERATIONS</td> <td>BOSTON</td> </tr> </tbody> </table> <p data-bbox="217 745 392 779">Table: Emp</p> <table border="1" data-bbox="196 797 1390 1675"> <thead> <tr> <th>EMPNO</th> <th>ENAME</th> <th>JOB</th> <th>MGR</th> <th>HIREDATE</th> <th>SAL</th> <th>COMM</th> <th>DEPTNO</th> </tr> </thead> <tbody> <tr><td>7369</td><td>SMITH</td><td>CLERK</td><td>7902</td><td>17-Dec-80</td><td>800</td><td></td><td>20</td></tr> <tr><td>7499</td><td>ALLEN</td><td>SALESMAN</td><td>7698</td><td>20-Feb-81</td><td>1600</td><td>300</td><td>30</td></tr> <tr><td>7521</td><td>WARD</td><td>SALESMAN</td><td>7698</td><td>22-Feb-81</td><td>1250</td><td>500</td><td>30</td></tr> <tr><td>7566</td><td>JONES</td><td>MANAGER</td><td>7839</td><td>02-Apr-81</td><td>2975</td><td></td><td>20</td></tr> <tr><td>7654</td><td>MARTIN</td><td>SALESMAN</td><td>7698</td><td>28-Sep-81</td><td>1250</td><td>1400</td><td>30</td></tr> <tr><td>7698</td><td>BLAKE</td><td>MANAGER</td><td>7839</td><td>01-May-81</td><td>2850</td><td></td><td>30</td></tr> <tr><td>7782</td><td>CLARK</td><td>MANAGER</td><td>7839</td><td>09-Jun-81</td><td>2450</td><td></td><td>10</td></tr> <tr><td>7788</td><td>SCOTT</td><td>ANALYST</td><td>7566</td><td>09-Dec-82</td><td>3000</td><td></td><td>20</td></tr> <tr><td>7839</td><td>KING</td><td>PRESIDENT</td><td>17-Nov-81</td><td></td><td>5000</td><td></td><td>10</td></tr> <tr><td>7844</td><td>TURNER</td><td>SALESMAN</td><td>7698</td><td>08-Sep-81</td><td>1500</td><td>0</td><td>30</td></tr> <tr><td>7876</td><td>ADAMS</td><td>CLERK</td><td>7788</td><td>12-Jan-83</td><td>1100</td><td></td><td>20</td></tr> <tr><td>7900</td><td>JAMES</td><td>CLERK</td><td>7698</td><td>03-Dec-81</td><td>950</td><td></td><td>30</td></tr> <tr><td>7902</td><td>FORD</td><td>ANALYST</td><td>7566</td><td>03-Dec-81</td><td>3000</td><td></td><td>20</td></tr> <tr><td>7934</td><td>MILLER</td><td>CLERK</td><td>7782</td><td>23-Jan-82</td><td>1300</td><td></td><td>10</td></tr> </tbody> </table> <p data-bbox="217 1693 528 1727">The table structure are</p> <p data-bbox="217 1753 395 1787">Table: Dept</p> <table border="1" data-bbox="196 1805 1390 2020"> <thead> <tr> <th>Colum Name</th> <th>Data Type</th> <th>Size</th> <th>Constraint</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DeptNo</td> <td>Number</td> <td>2</td> <td>PRIMARY KEY</td> <td></td> </tr> <tr> <td>Dname</td> <td>VARCHAR2</td> <td>10</td> <td>NOT NULL</td> <td></td> </tr> <tr> <td>Loc</td> <td>VARCHAR2</td> <td>10</td> <td></td> <td></td> </tr> </tbody> </table>	DEPTNO	DNAME	LOC	10	ACCOUNTING	NEW YORK	20	RESEARCH	DALLAS	30	SALES CHICAGO		40	OPERATIONS	BOSTON	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	7369	SMITH	CLERK	7902	17-Dec-80	800		20	7499	ALLEN	SALESMAN	7698	20-Feb-81	1600	300	30	7521	WARD	SALESMAN	7698	22-Feb-81	1250	500	30	7566	JONES	MANAGER	7839	02-Apr-81	2975		20	7654	MARTIN	SALESMAN	7698	28-Sep-81	1250	1400	30	7698	BLAKE	MANAGER	7839	01-May-81	2850		30	7782	CLARK	MANAGER	7839	09-Jun-81	2450		10	7788	SCOTT	ANALYST	7566	09-Dec-82	3000		20	7839	KING	PRESIDENT	17-Nov-81		5000		10	7844	TURNER	SALESMAN	7698	08-Sep-81	1500	0	30	7876	ADAMS	CLERK	7788	12-Jan-83	1100		20	7900	JAMES	CLERK	7698	03-Dec-81	950		30	7902	FORD	ANALYST	7566	03-Dec-81	3000		20	7934	MILLER	CLERK	7782	23-Jan-82	1300		10	Colum Name	Data Type	Size	Constraint	Description	DeptNo	Number	2	PRIMARY KEY		Dname	VARCHAR2	10	NOT NULL		Loc	VARCHAR2	10			
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	Colum Name	Data Type	Size	Constraint	Description	
	EmpNo	Number	4	PRIMARY KEY		
	Ename	VARCHAR2	10	NOT NULL		
	JOB	VARCHAR2	10			
	MGR	NUMBER	4			
	HIREDATE	DATE				
	SAL NUMBER	(7,2)				
	COMM	NUMBER	(7,2)			
	DEPTNO	NUMBER	2	FOREIGN KEY	References DeptNo field of Dept Table	
	<p>(a) Write SQL command to create a View on the above tables to show Ename, Dname, Job and Sal of an employee whose department number is either 10 or 20.</p> <p>(b) Write a SQL Function to return Bonus, which is calculated as 20% of the amount passed. Also give an example of its use on column Sal of Emp table.</p> <p>(c) Write the PL/SQL code to create a stored procedure Raise_Salary to increase salary of an employee whose EMPNO and Sal_Percentage is passed as IN mode argument and will also display the changed value.</p>					<p>2</p> <p>4</p> <p>4</p>

Informatics Practices (Theory Code : 065)

Marking Scheme

Sample Question Paper - I

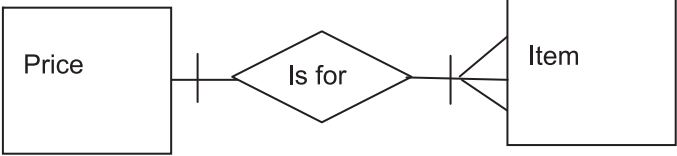
TIME : 3 Hrs

MM : 100

Note

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

No.	Answers	Marks
SECTION - A		
Q 1.		
(a)	i) Open Source Software ii) GNU's Not Unix iii) World Wide Web Consortium iv) Free Open Source Solutions <i>(½ Mark each for full form of each term)</i>	2
(b)	The front-end is the part of a software system that interacts directly with the user, and the back-end comprises the components that process the output from the front-end. <i>(2 Marks for correct comparison)</i>	2
(c)	Data mining can be used by financial companies to rank customers on the basis of past payment behavior. This helps the companies to decide whether or not to approve further loans , credit cards etc. <i>(2 Marks for correct answer)</i>	2
(d)	The purpose of feasibility study is to assess the viability of the proposed system. During the feasibility study, projects are typically evaluated in areas of economical, operational, and technical feasibility. The outcome of the feasibility study indicates whether or not to proceed with the proposed system. <i>(2 Marks for correct answer)</i>	2
(e)	One to one and many to one relationship	2

No.	Answers	Marks				
Q2	 <p>(1 Mark for identifying the type of relationship)</p> <p>(1 Mark for ER diagram)</p>					
(a)	<p>ORACLE</p> <p>Microsoft SQL or MySQL</p> <p>Microsoft Access</p> <p>Firebird</p> <p>DB2</p> <p>Sybase</p> <p>(1mark each for naming any two correct RDBMS)</p>	2				
(b)	<p>SQL is the Structured Query Language used to interact with the RDBMS.</p> <p>The SQL Subcategories are:</p> <p>DML (INSERT, UPDATE, DELETE)</p> <p>DDL (CREATE TABLE, DROP TABLE, ALTER TABLE)</p> <p>DCL (GRANT, REVOKE)</p> <p>TCL (COMMIT, ROLLBACK)</p> <p>(1mark for the correct definition of SQL)</p> <p>(½ mark each for correctly naming any 3 subcategories)</p> <p>(½ mark each for the correct command in each category (Only one command in each category))</p>	4				
(c)	<table border="1" data-bbox="197 1659 1390 2020"> <thead> <tr> <th data-bbox="197 1659 788 1711">Decision Control</th> <th data-bbox="788 1659 1390 1711">Looping Control</th> </tr> </thead> <tbody> <tr> <td data-bbox="197 1711 788 2020"> <p>1. Decision control structures are used to implement decisions based on conditions. We check the condition and allow to execute code if the condition is found true else some other set of code is executed. This can be achieved using If then Else</p> </td> <td data-bbox="788 1711 1390 2020"> <p>1. Looping means iterations or repetition of some set of code. The same set of code can be executed more than once on entering into the Looping Construct.</p> </td> </tr> </tbody> </table>	Decision Control	Looping Control	<p>1. Decision control structures are used to implement decisions based on conditions. We check the condition and allow to execute code if the condition is found true else some other set of code is executed. This can be achieved using If then Else</p>	<p>1. Looping means iterations or repetition of some set of code. The same set of code can be executed more than once on entering into the Looping Construct.</p>	
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No.	Answers		Marks	
Q.3	End if command in PL/SQL.		4	
	<p>2. Decision Control Structure in PL/SQL are</p> <p>IF .. THEN..ENDIF statement</p> <p>IF .. THEN ..ELSE..ENDIF statement</p> <p>IF .. THEN .. ELSIF..ENDIF statement</p> <p>If <Condition> Then</p> <p><Executable Statements></p> <p>Else</p> <p><Executable Statements></p> <p>End If</p>	<p>2. Looping Control in PL/SQL are</p> <p>Basic LOOP</p> <p>FOR Loop</p> <p>WHILE Loop</p>		
	<p>3. In decision control, statement(s) is/are executed maximum one time only whereas in loops statement(s) is/are executed more than one time</p>			
	<p><i>(2 marks for correct difference)</i></p> <p><i>(1 mark each for command of control structure)</i></p>			
(a)	<p>An event represents the state of the keyboard keys, the location of the mouse, and the state of the mouse buttons, which occurs as the result of user interaction with an element.</p> <p>For example, when a user clicks a button, an event is generated.</p> <p>Visual Basic is one example of an event driven programming language.</p> <p><i>(1 mark for the correct definition)</i></p> <p><i>(1 mark for naming the language)</i></p>		2	
(b)	MsgBox ()	InputBox ()	4	
<p>1. As the name explains it's a mechanism to show a small dialog box, which pops up over the existing application for displaying custom messages.</p>	<p>1. The InputBox is for displaying a message along with collecting User Inputs.</p>			
<p>2. Message Box can also be used to gather user responses but they are limited to the user actions such as whether the user has Clicked OK</p>	<p>The Input Box gathers user data on string form.</p>			

No.	Answers		Marks
	button, or Cancel Button or Yes button or No button etc.		
	Example MsgBox "Hello User"	Example Dim Age Age=InputBox ("Enter Age")	
(c)	<i>(2 marks for any two correct differences)</i> <i>(1 mark for each example)</i>		
	ADODB	ADO DC	4
	It is an object library available in visual basic and a reference can be added by going to the menu Project > References.	It is a data control like other controls available in the toolbox. This control can be added by going to the Menu Project > Components.	
	ADODC is class library.	ADODC is just a data control,	
	Ex: Programmer Controlled Navigation of Data from table	Ex: This control does pre-defined navigations Move First, Move Last, Move Next, Move Previous	
	<i>(2 marks for any two correct differences)</i> <i>(1 mark for each example)</i>		
	Section - B		
Q4.			
(a)	&Check Status <i>(½ mark for '&' symbol)</i> <i>(½ mark for the text 'Check Status')</i>		1
(b)	On Click event of the cmdCloseMe button write the following: END <i>(½ mark for mentioning the event or writing the equivalent code for it)</i> <i>(½ mark for the code)</i>		1
(c)	On KeyPress Event write the following code fragment: If Not(IsNumeric(txtDD.Text)) Then		4

No.	Answers	Marks
	<p>Msgbox ("Please enter numbers only")</p> <p>End If</p> <p><i>(2½ marks for the correct validation using the IF statement)</i></p> <p><i>(1 mark for displaying a message using the MsgBox)</i></p> <p><i>(½ mark for End If)</i></p>	
(d)	<p>Procedure Coding:</p> <p>Dim strDate as String</p> <p>strDate = trim(txtDD.Text) & "-" & trim (txtMM.text) & "-"& trim(txtYYYY.text)</p> <p>If Not IsDate(strDate) Then</p> <p>MsgBox "Please Enter a Valid Date"</p> <p>txtDD.Text = ""</p> <p>txtMM.Text=""</p> <p>txtYYYY.text=""</p> <p>txtDD.SetFocus</p> <p>End If</p> <p><i>(1 mark for extracting the value from the textbox)</i></p> <p><i>(1 mark for the correct validation using the IF statement)</i></p> <p><i>(1 mark for displaying a message using the MsgBox)</i></p> <p><i>(1 mark for clearing the textboxes)</i></p>	4
Q5.	<p>(a) Hello</p> <p>10</p> <p>450</p> <p>Bye</p> <p><i>(½ mark for each correct line of output)</i></p>	2
(b)	<p>SELECT CASE Total</p> <p>CASE IS >= 75</p> <p>Grade = "A"</p>	2

No.	Answers	Marks
	<p>CASE 50 TO 74 Grade = "B" CASE 33 TO 49 Grade = "C" CASE ELSE Grade = "D" END SELECT</p> <p><i>(½ mark for SELECT statement)</i> <i>(½ mark for case value)</i> <i>(½ mark for CASE ELSE statement)</i> <i>(½ mark for END SELECT statement)</i></p>	
(c)	<p>Corrected code:</p> <pre> DIM Total AS INTEGER Total=30.0 DO WHILE Total>=20 Total=Total-5 LOOP PRINT Total </pre> <p><i>(½ Mark each for identifying and correcting each of four errors)</i></p>	2
(d)	<pre> FOR Num = 1 TO 5 PRINT Num NEXT Num </pre> <p><i>(½ mark for using correct control variable)</i> <i>(½ mark for using correct initial value)</i> <i>(½ mark for using correct final value)</i> <i>(½ mark for NEXT statement)</i></p>	
(e)	<p>Output:</p> <pre> Tech and Kids False </pre>	2

No.	Answers	Marks
	110 7 <i>(½ mark for each correct line of output)</i>	
Q6.	Section - C	
(a)	Code: CREATE TABLE Employee (EmpID NUMBER (6) PRIMARY KEY, EmpName VARCHAR2 (20) NOT NULL, EmpAddress VARCHAR2 (30), EmpPhone VARCHAR2 (10), EmpSal NUMBER (9,2)) <i>(½ mark for CREATE TABLE)</i> <i>(½ mark for fields with data types)</i> <i>(½ mark for PRIMARY KEY constraint)</i> <i>(½ mark for NOT NULL constraint)</i>	2
(b)	Code: BEGIN UPDATE EMPLOYEE; SET EmpSal = EmpSal+EmpSal * &SAL_PER/100; END; <i>(1 mark for UPDATE Employee statement)</i> <i>(1 mark for correct SET statement)</i> <i>(2 marks for using the correct expression to increase salary)</i>	4
(c)	Code: DECLARE V_Sal EMP.SAL%TYPE; CURSOR C_Emp IS SELECT SAL FROM EMP;	4

No.	Answers	Marks
	<pre> BEGIN OPEN C_Emp; LOOP FETCH C_Emp INTO V_Sal; V_Sal := V_Sal * 1.1; EXIT WHEN C_Emp%NOTFOUND; DBMS_OUTPUT.PUT_LINE (' Raised Salary is: ' V_Sal); END LOOP; CLOSE C_Emp; END; </pre> <p><i>(1 mark for creating the Cursor)</i> <i>(1 mark for the loop)</i> <i>(1 mark for using DBMS_OUTPUT.PUT_LINE)</i> <i>(1 mark for correct expression for increase of Salary)</i></p>	
Q7.	<p>(a) Code:</p> <pre> CREATE VIEW VU_EMP AS SELECT EName, Dname, Job , Sal FROM Emp, Dept WHERE Emp.DeptNo = Dept.DeptNo AND Emp.DeptNo IN (10,20); </pre> <p><i>(½ Mark for CREATE VIEW command)</i> <i>(½ Mark for SELECT statement)</i> <i>(1 Mark for WHERE clause)</i></p>	2
(b)	<p>Code:</p> <pre> CREATE OR REPLACE FUNCTION FindBonus (V_Amount IN NUMBER) RETURN NUMBER AS V_Bonus NUMBER; BEGIN </pre>	4

No.	Answers	Marks
(c)	<p>V_Bonus := V_Amount * 1.2; RETURN V_Bonus; END; Example of use: SQL> SELECT Ename, FindBonus(Sal) FROM Emp; <i>(1 mark for correct function header)</i> <i>(½ mark for correct positions of BEGIN and END)</i> <i>(1 mark for correct calculation expression)</i> <i>(½ mark for RETURN)</i> <i>(1 mark for Example)</i></p> <p>Code: CREATE OR REPLACE PROCEDURE RAISE_SALARY (V_EmpNo EMP.EMPNO%TYPE, SAL_PERCENTAGE NUMBER) AS V_SAL NUMBER (10,2); BEGIN UPDATE EMP SET SAL= SAL+(SAL*(SAL_PER/100)) WHERE EMPNO = V_EMPNO; SELECT SAL INTO V_SAL FROM EMP WHERE EMPNO = V_EMPNO; DBMS_OUTPUT.PUT_LINE ('The New Salary is : ' V_SAL); END; <i>(1 mark for correct Procedure header with required parameters)</i> <i>(1 mark for correct UPDATE statement)</i> <i>(1 mark for correct SELECT statement)</i> <i>(1 mark for displaying the changed value of salary)</i></p>	4

Informatics Practices (Code : 065)
Sample Question Paper - II
Class XII


TIME : 3 Hrs

MM : 70

Note

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

No.	Questions	Marks
Section - A		
Q 1.	<p>Answer the following questions</p> <p>(a) Explain the following terms:</p> <ol style="list-style-type: none"> i. UNICODE ii. GNU <p>(b) Distinguish between open source software and proprietary software with respect to customizability of software.</p> <p>(c) Explain the term Client Server Computing using suitable example.</p> <p>(d) Write the tasks done when "Maintenance" is conducted once the system is implemented during System Development Life Cycle?</p> <p>(e) Expand UML. Write its purpose.</p>	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
Q2	<p>Answer the following questions</p> <p>(a) How do we restrict duplicate rows in SQL SELECT Query? Give example</p> <p>(b) Define SQL Functions. Explain Single Row Functions and its subcategories giving examples in each category.</p> <p>(c) Differentiate between Row Level Triggers and Statement Level Triggers using suitable example</p>	<p>2</p> <p>4</p> <p>4</p>
Q3	<p>Answer the following questions</p>	

No.	Questions	Marks																
	<p>(a) Distinguish between Single document Interface and Multiple Document Interface Give one example of both the types.</p> <p>(b) Differentiate between System Defined and User Defined functions in Visual Basic. Define a function funCheckNumeric() to check for validity of a numeric value passed as argument to the function. The function will return True if the value is numeric else will return False.</p> <p>(c) Define the term Common Dialog Box. Explain the process to include and a Common Dialog Box in a Visual Basic form and write the code fragment to show File Open Dialog when mnuFileNew is clicked.</p>	<p>2</p> <p>4</p> <p>4</p>																
Q4	Section - B																	
	<p>Read the following case study and answer the questions that follows</p> <p>Ravya Jacob made a Picture Viewer using Visual Basic as programming tool. She had used a Form with Drive List Box, Directory List Box, File List Box and a Image control as described in the following table.</p> <table border="1" data-bbox="215 1025 1316 1478"> <thead> <tr> <th>Object or Control Type</th> <th>Object Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Form</td> <td>frmPictureViewer</td> <td>The Main Form Object</td> </tr> <tr> <td>DriveListBox</td> <td>drvMyDrive</td> <td>To Select Drive</td> </tr> <tr> <td>DirectoryListBox</td> <td>dirMyDirectory</td> <td>To select directory in the specified drive</td> </tr> <tr> <td>FileListBox</td> <td>filMyFile</td> <td>To select file in the specified directory</td> </tr> <tr> <td>Image</td> <td>imgMyImage</td> <td>To hold the image specified in the file box</td> </tr> </tbody> </table> <p>Software Application</p> 		Object or Control Type	Object Name	Description	Form	frmPictureViewer	The Main Form Object	DriveListBox	drvMyDrive	To Select Drive	DirectoryListBox	dirMyDirectory	To select directory in the specified drive	FileListBox	filMyFile	To select file in the specified directory	Image
Object or Control Type	Object Name	Description																
Form	frmPictureViewer	The Main Form Object																
DriveListBox	drvMyDrive	To Select Drive																
DirectoryListBox	dirMyDirectory	To select directory in the specified drive																
FileListBox	filMyFile	To select file in the specified directory																
Image	imgMyImage	To hold the image specified in the file box																

No.	Questions	Marks
	<p>Answer the following questions based on the above application.</p> <p>(a) What is the function Name used to assign picture to an Image Control</p> <p>(b) Give the value for the Pattern Property of File List Box to show only JPEG images.</p> <p>(c) Write the code statement for dirMyDirectory_Change() event such that whenever there is a change in directory list box the file list box (filMyFile)should point towards the file in that directory</p> <p>(d) Write a code statement for drvMyDrive_Change() event such that whenever there is a change in drive list box the directory list box should get modified</p> <p>(e) Write a code snippet to trap the error and report it, when user selects a: in the drive list box and there is no floppy disk present in a: (a drive). The drive list box should revert back to c: drive</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p> <p>4</p>
Q5	<p>Read the following text and answer the questions that follows:</p> <p>(a) Davis Mathews wanted to make an application to find Even or Odd out of a given number. He had written the following code snippet and he is unable to correct some of the errors in the code. You are required to help him in correcting the code segment. Find the Errors and rewrite the corrected code underlining the correction made</p> <pre> 'Program code to check Even or Odd out of a number in a text box txt Private Sub cmdFind_Click() if Val(txtNumber) Mod 2 =0 MsgBox "It is an Even Number" Else MsgBox "It is an Odd Number" End Sub </pre> <p>(b) Shankar Giri wanted to make an application to print a message up to some number of times as mentioned in a text box. The code is given to you for correction, do the required correction and rewrite the corrected code underlining the corrections done</p> <pre> 'Program code to display a message on Clicking of cmdClickMe command button Private Sub cmdClickMe_Click() </pre>	<p>2</p> <p>2</p>

No.	Questions	Marks
	<p>For i = 1 To Val(txtNumber.Text) MsgBox "I will say Hello at least: " txtNumber.Text + " times" End Sub</p> <p>(c) The following code segment is giving error "Overflow" on execution. Find and write the code statement giving this error and also give the reason for the same.</p> <p>'Program code to divide a number with another</p> <pre>Private Sub cmdClickMe_Click() For i = 0 To 5 For j = i To 5 Print j / i Next Next End Sub</pre> <p>(d) Examine the code given in the following code snippet and find how many times the Message will be printed</p> <p>'Program Code to print a message in a Message Box using Loops</p> <pre>Private Sub cmdClickMe_Click() For i = 1 To 3 For j = i To 3 Step -1 MsgBox "I am a message box " Next Next End Sub</pre> <p>(e) A visual basic project contains Project menu having the options Components and References. Differentiate between these two options</p>	<p>2</p> <p>2</p> <p>2</p>
Q6	<p style="text-align: center;">Section C</p> <p>Read the questions given below and answer accordingly</p> <p>(a) What does a Variable mean and what is meant by its scope? State using suitable example</p>	<p>2</p>

No.	Questions	Marks												
	<p>(b) Write the output produced by the following part of code in PL/SQL</p> <pre> DECLARE Y NUMBER; X NUMBER; BEGIN Y:= 5; FOR X IN 1..4 LOOP Y:=X+Y; DBMS_OUTPUT.PUT_LINE (Y); END LOOP; END; </pre> <p>(c) Find the error(s) in the following PL/SQL code and rewrite the correct code after underlining the corrections made.</p> <pre> IF num := 5 K = 2000 ELSIF ; num > 5 K := 3000; END LOOP; </pre> <p>(d) Write a PL/SQL Function OddEven to return value True if the number passed to it is Even else will return False.</p>	<p>2</p> <p>2</p> <p>4</p>												
Q7	<p>Answer the following questions based on the following Employee table</p> <table border="1" data-bbox="256 1543 1310 1899"> <thead> <tr> <th data-bbox="256 1543 868 1599">Name of Column</th> <th data-bbox="868 1543 1310 1599">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="256 1599 868 1659">ID</td> <td data-bbox="868 1599 1310 1659">NUMBER (4)</td> </tr> <tr> <td data-bbox="256 1659 868 1720">First_Name</td> <td data-bbox="868 1659 1310 1720">VARCHAR2 (30)</td> </tr> <tr> <td data-bbox="256 1720 868 1780">Last_Name</td> <td data-bbox="868 1720 1310 1780">VARCHAR2 (30)</td> </tr> <tr> <td data-bbox="256 1780 868 1841">EMail_ID</td> <td data-bbox="868 1780 1310 1841">VARCHAR2 (10)</td> </tr> <tr> <td data-bbox="256 1841 868 1899">Salary</td> <td data-bbox="868 1841 1310 1899">NUMBER (9,2)</td> </tr> </tbody> </table> <p>(a) Write the difference between a Cursor and a Trigger.</p>	Name of Column	Type	ID	NUMBER (4)	First_Name	VARCHAR2 (30)	Last_Name	VARCHAR2 (30)	EMail_ID	VARCHAR2 (10)	Salary	NUMBER (9,2)	<p>4</p> <p>2</p>
Name of Column	Type													
ID	NUMBER (4)													
First_Name	VARCHAR2 (30)													
Last_Name	VARCHAR2 (30)													
EMail_ID	VARCHAR2 (10)													
Salary	NUMBER (9,2)													

No.	Questions	Marks
	<p>(b) Write a PL/SQL procedure EDSAL to find out whether the salary of an Employee with ID = 1234 is less than 5000 or not. If it is less then 5000, modify the Salary of employee by increasing it by 15%.</p> <p>(c) Write a PL/SQL block to create a trigger to display a Hello message before each insert operation on the table.</p>	<p>4</p> <p>4</p>

Informatics Practices (Theory Code : 065)

Marking Scheme

Sample Question Paper - II

TIME : 3 Hrs

MM : 100

Note

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

No.	Answers	Marks
SECTION - A		
Q 1.		
(a)	<p>i. Unicode is an industry standard allowing computers to consistently represent and manipulate text expressed in most of the world's writing systems. Unicode's success at unifying character sets has led to its widespread and predominant use in the internationalization and localization of computer software.</p> <p>ii. GNU is a computer operating system composed entirely of free software. It stands for GNU's Not Unix; it was chosen because its design is Unix-like, but differs from Unix by being free software and containing no Unix code.</p> <p><i>(1 mark for each explanation)</i></p>	2
(b)	<p>Open source software allows a user or organization to tailor make the software according to its needs. In the case of proprietary software, customization is not possible at the user end as access to the source code is denied and solely controlled by the developer of the software.</p> <p><i>(2 marks for correct difference)</i></p>	2
(c)	<p>There are two key elements in Client / Server computing. The CLIENT and the SERVER. The CLIENT is one who requests the services and the SERVER is the one who is able to provide the requested services. It is not always necessary that the Client and the server are two separate machines. The same machine could be a server as well as a client. Such a computing model in which one process requests another process to do a task for it is called client - server computing.</p> <p>For example, a web browser is a client program at the user computer that may access information at any web server in the world.</p>	2

No.	Answers	Marks
	<p>Another example, in a network within a computer lab, the printer may be attached to a single computer and all other computers will be using that printer. In that case the computer to which the printer is attached becomes the printer server and all other machines using the printer become clients.</p> <p><i>(2 marks for explanation with example)</i></p> <p><i>OR</i></p> <p><i>(1 mark for only example without explanation)</i></p>	
(d)	<p>The tasks done during maintenance are :</p> <ul style="list-style-type: none"> • debugging the programs. • updating the system to accommodate changes in business conditions. • adding new functionality to the system. <p><i>(1 mark each for any 2 tasks)</i></p>	2
(e)	<p>UML stands for Unified Modeling Language.</p> <p>The Unified Modeling Language (UML) is a general-purpose modeling language used for visualizing, specifying, constructing and documenting the artifacts of software-intensive systems.</p> <p><i>(1 mark each for both parts)</i></p>	2
Q2		
(a)	<p>The DISTINCT keyword is used to restrict duplicate rows. It can easily remove multiple occurrences of an item so that it occurs only once.</p> <p>The DISTINCT clause removes the duplicate rows.</p> <p>SELECT DISTINCT Activity FROM Student</p> <p><i>(1 mark for stating the usage of DISTINCT keyword</i></p> <p><i>1 mark for example)</i></p> <p><i>Or</i></p> <p><i>(2 marks for explanation of usage of DISTINCT keyword with the help of example)</i></p>	2
(b)	<p>SQL functions are predefined stored software that manipulates submitted elements within SQL statements to carry out certain tasks and returns some value.</p> <p>Single-row functions return a single result row for every row of a queried table or view. The subcategories of single row functions are as follows</p>	4

No.	Answers	Marks
	<p>1. Numeric functions - They accept numeric input and return numeric values. COS, POWER, EXP</p> <p>2. Character functions - These are functions that work on character data types. They may either return character values or any other data type. The character functions that return character values are: CHR, CONCAT, INITCAP. The character functions that return number values are: ASCII, INSTR, LENGTH</p> <p>3. Datetime functions These are functions that are designed to accept any of the three types of data (date, timestamp, and interval) and to return a value of one of these types. The datetime functions are: ADD_MONTHS, CURRENT_DATE, SYSDATE</p> <p>4. Conversion functions These functions convert a value from one datatype to another. For Ex.: ASCIISTR, TO DATE, TO NUMBER</p> <p>5. Miscellaneous function : These are functions which are used to perform general tasks. For Ex.: NVL, DECODE</p> <p><i>(1 mark for definition of a function)</i></p> <p><i>(1 mark for Single row function)</i></p> <p><i>(1 mark for naming categories)</i></p> <p><i>(1 mark for writing one example in each category)</i></p> <p>(c) A row-level trigger fires once for each row that is affected by a triggering event. For example, if deletion is defined as a triggering event on a table and a single DELETE command is issued that deletes five rows from the table, then the trigger will fire five times, once for each row.</p> <p>A statement-level trigger fires once per triggering statement regardless of the number of rows affected by the triggering event. In the prior example of a single DELETE command deleting five rows, a statement-level trigger would fire only once.</p> <p>The following example is a before row-level trigger that calculates the commission of every new employee belonging to department 30 that is inserted into the emp table.</p> <pre>CREATE OR REPLACE TRIGGER emp_comm_trig BEFORE INSERT ON emp FOR EACH ROW BEGIN IF :NEW.deptno = 30 THEN DBMS_OUTPUT.PUT_LINE(:NEW.sal * .4); END IF;</pre>	4

No.	Answers	Marks
	<p>END;</p> <p>The following is an example of a simple before statement-level trigger that displays a message prior to an insert operation on the emp table.</p> <pre>CREATE OR REPLACE TRIGGER emp_alert_trig BEFORE INSERT ON emp BEGIN DBMS_OUTPUT.PUT_LINE('New employees are about to be added'); END;</pre> <p><i>(2 marks for correct difference)</i> <i>(1 mark each for example of both)</i></p>	
Q3.		
(a)	<p>SDI: A function that allows an application to display only one document at a time.</p> <p>Example: Notepad OR MS-Paint</p> <p>MDI: A function that allows an application to display and lets the user work with more than one document at the same time.</p> <p>Example: MS Word OR MS Excel</p> <p><i>(½ Mark each for correct definition of MDI and SDI)</i> <i>(½ Mark each for any correct example of MDI and SDI)</i></p>	2
(b)	<p>System Defined Functions</p> <p>System defined functions are the pre-defined or in-built or library functions in the VB interpreter which can be used directly in any program to perform common tasks.</p> <p>There are 3 types of system defined functions : String function (left(), space() etc.), arithmetic function (val(), mid(), etc.) and calendar function (day(), month(), date(), etc.).</p> <p>User Defined Functions</p> <p>User defined functions are the functions created by the programmer to perform specialized tasks.</p> <pre>Public Function funCheckNumeric(num as Variant) As String If IsNumeric(num) then funCheckNumeric = 'true' else</pre>	4

No.	Answers	Marks
	<pre> funCheckNumeric = 'false' EndIf End Function OR Public Function funCheckNumeric(num as Variant) As Boolean If IsNumeric(num) then funCheckNumeric = True else funCheckNumeric = False EndIf End Function </pre> <p><i>(2 marks for difference between System Defined and User Defined functions)</i></p> <p><i>(2 marks for defining a function)</i></p> <p>(c) Common Dialog Box is used to perform common application tasks, such as opening files, choosing color values, and printing documents. The common dialog boxes allow the user to implement a consistent approach to the application's user interface. This reduces the amount of effort that users spend in learning user interface behavior for the application.</p> <p>Although the Common Dialog Box control is known as a standard control, the control doesn't appear on toolbox. These steps have to be done to add the Common Dialog Box control to toolbox:</p> <ol style="list-style-type: none"> 1. Select Project -> Components from the Visual Basic Menu to display the Components dialog box. 2. Scroll to the control named Microsoft Common Dialog Control 6.0 and select it. 3. Click OK. The Common Dialog Box control will now appear at the end of the Toolbox window. 4. Double-click the Common Dialog Box control to add the control to Form window. <p>To display a File Open dialog box</p> <pre> cdbDialog.DialogTitle = "File Open" cdbDialog.ShowOpen 'Trigger the dialog box </pre> <p><i>(1 mark for definition of Common Dialog Box)</i></p>	4

No.	Answers	Marks
	<p><i>(1 mark for explanation of the process to include Common Dialog Box)</i> <i>(2 marks for code fragment)</i></p> <p style="text-align: center;">Section - B</p> <p>(a) The function Name is LoadPicture() <i>(1 mark for function name)</i></p> <p>(b) *.jpg <i>(1 mark for correct answer)</i></p> <p>(c) fillMyFile.Path = dirMyDirectory.Path <i>(2 marks for correct answer)</i></p> <p>(d) dirMyDirectory.Path = drvMyDrive.Drive <i>(2 marks for correct answer)</i></p> <p>(e) On Error GoTo ErrorProc dirMyDirectory.Path = drvMyDrive.Drive Exit Sub ErrorProc: MsgBox Err.Description drvMyDrive.Drive = "C:" <i>(4 marks for correct answer)</i></p>	<p></p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">4</p>
<p>Q5.</p>	<p>(a) Correct Code: 'Program code to check Even or Odd out of a number in a text box txt Private Sub cmdFind_Click() if Val(txtNumber) Mod 2 =0 THEN MsgBox "It is an Even Number" Else MsgBox "It is an Odd Number" END IF</p>	<p style="text-align: center;">2</p>

No.	Answers	Marks
(b)	<p>End Sub</p> <p><i>(1 mark for rectifying each error)</i></p> <p>Correct Code:</p> <p>'Program code to display a message on Clicking of cmdClickMe command button</p> <pre>Private Sub cmdClickMe_Click() For i = 1 To Val(txtNumber.Text) MsgBox "I will say Hello at least: " & txtNumber.Text & " times" NEXT i End Sub</pre> <p><i>(1 for identifying the error)</i></p> <p><i>(1 mark for writing the correct code)</i></p>	2
(c)	<p>The error "Division by zero" occurs here as division by zero is not defined ;Here the initial value of i is zero and j when divided by i would give the error.</p> <p>To debug the overflow error, For i = 0 To 5 can be changed to For i = 1 To 5</p> <p><i>(2 marks for correct answer)</i></p>	2
(d)	<p>The Message will be printed one time.</p> <p><i>(2 marks for the correct answer)</i></p>	
(e)	<p>The option Components of Project menu displays the Components dialog box from which we can add controls, designs, insertable objects. The option References refers to Visual ActiveX controls that can be added to the project. It allows us to select another application's objects that we want in our code by setting a reference to the application's object library.</p> <p><i>(2 marks for the correct difference)</i></p>	2
Section - C		
(a)	<p>A variable is a symbol or a name that stands for a value that can change . Variable scope means the part of the program where the variable is accessible or can be manipulated.</p> <pre><<OUTER>> DECLARE A NUMBER(2); BEGIN</pre>	2

No.	Answers	Marks
	<pre> A:=2; DBMS_OUTPUT.PUT_LINE (A); <<INNER>> DECLARE B VARCHAR2(10); BEGIN B := 'Class'; DBMS_OUTPUT.PUT_LINE (A); DBMS_OUTPUT.PUT_LINE (B); END; DBMS_OUTPUT.PUT_LINE (A); DBMS_OUTPUT.PUT_LINE (B); END; </pre> <div data-bbox="903 398 1270 535" style="border: 1px solid black; padding: 5px; margin: 10px 0;">A and B are both variables here</div> <div data-bbox="903 689 1270 826" style="border: 1px solid black; padding: 5px; margin: 10px 0;">A and B are both accessible here</div> <div data-bbox="940 902 1310 1039" style="border: 1px solid black; padding: 5px; margin: 10px 0;">A is accessible but B is not accessible here as the scope of B has ended</div> <p><i>(½ mark for definition of variable)</i> <i>(½ mark for definition of Scope of variable)</i> <i>(1 mark for example illustrating both)</i></p>	2
(b)	<p>Output:</p> <pre> 6 8 11 15 </pre> <p><i>(½ mark for each line of correct output)</i></p>	2
	<p>(c)</p> <pre> IF num = 5 K := 2000 ELSIF num > 5 K := 3000; END IF; </pre> <div data-bbox="604 1686 798 1760" style="border: 1px solid black; padding: 5px; margin: 10px 0;">SEMICOLON REMOVED</div> <p><i>(½ Mark each for identifying and correcting four errors)</i></p>	

No.	Answers	Marks
(d)	<pre>CREATE OR REPLACE Function ODDEVEN (X IN NUMBER) RETURN BOOLEAN IS BEGIN IF MOD (X,2)=0 THEN RETURN TRUE; ELSE RETURN FALSE; END IF; END;</pre> <p><i>(2 marks for correct Function header 1 mark for IF statement 1 mark for Return statement)</i></p>	4
Q7.		
(a)	<p>Cursors are the work areas for SQL SELECT statements to fetch records from a database table and work with each record on record-by-record basis.</p> <p>Triggers supports event based execution of code statements in database. A trigger gets initiated on the events such as Updating of records, Deletion of records etc. and can be triggered on Statement Level or Row Level.</p> <p><i>(2 marks for the correct difference)</i></p>	2
(b)	<pre>CREATE OR REPLACE PROCEDURE EDSAL AS msalary Employee.Salary%TYPE; BEGIN SELECT Salary into mSalary FROM Employee WHERE ID = 1234; IF mSalary < 5000 THEN DBMS_OUTPUT.PUT_LINE ('Salary less than 5000-granting Increment'); UPDATE Employee SET Salary = Salary + salary * 0.15</pre>	4

No.	Answers	Marks
	<pre> WHERE ID = 1234; ELSE DBMS_OUTPUT.PUT_LINE ('Salary more than 5000-NO Increment'); END IF; END; </pre> <p>(1 mark for procedure header)</p> <p>(1 mark for SELECT)</p> <p>(1 mark for UPDATE- SET command)</p> <p>(1 mark for IF statement)</p> <p>(b) CREATE OR REPLACE TRIGGER BefInsert BEFORE INSERT ON Employee FOR EACH ROW BEGIN DBMS_OUTPUT.PUT_LINE('Hello'); END;</p> <p><i>(1 mark for create Trigger)</i></p> <p><i>(1 mark for BEFORE)</i></p> <p><i>(1 mark for FOR EACH ROW)</i></p> <p><i>(½ mark for BEGDU END)</i></p>	

Informatics Practices (Code : 065)
Sample Question Paper - III
Class XII

TIME : 3 Hrs

MM : 70

Note

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

No.	Questions	Marks
Section - A		
Q 1.	<p>Answer the following questions</p> <p>(a) Distinguish between open source software and proprietary software with respect to initial software license cost.</p> <p>(b) Write the purpose of the following software: i) Mozilla FireFox ii) PHP</p> <p>(c) Differentiate between ER Modeling and Object Modeling Techniques .</p> <p>(d) How is Datawarehouse useful to an organization?</p> <p>(e) Name two areas in industries where business computing can be applied.</p>	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
Q2	<p>Answer the following questions:</p> <p>(a) State the difference between SQL and PL/SQL.</p> <p>(b) Differentiate between Cursors and Triggers.</p> <p>(c) How is Database fragmentation related to Distributed databases?</p> <p>(d) What are PL/SQL blocks? How many types of PL/SQL block definition exist? Explain with suitable examples.</p>	<p>2</p> <p>2</p> <p>2</p> <p>4</p>
Q3	<p>Answer the following questions:</p> <p>(a) How do we specify comments in Visual basic? How do we break a long line of code to a new line?</p>	<p>2</p>

No.	Questions	Marks
Q1.	<p>(b) Write the steps in Program Solving Methodology. Give a suitable example showing use of Problem Solving Methodology.</p> <p>(c) Explain the following Terms</p> <ul style="list-style-type: none"> (i) Modular Programming (ii) Object Oriented Programming (iii) Event Driven Programming (iv) RAD 	4
	<p style="text-align: center;">Sections - B</p> <p>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.</p> <div data-bbox="507 1003 1098 1458" data-label="Image"> </div>	4
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	

No.	Questions			Marks
		cmdRoundedRectangle		
		cmdRoundedSquare		
		cmdClearShape		
	Label	lblPlay WithShape		
	Shape	shpPlay	The Shape object.	
	<p>Now he wants to exercise some control over the command buttons displayed in the form. His requirements are listed as below</p> <p>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.</p> <p>Requirement 2: On Clicking Draw Shape command button, all the command buttons except Draw Shape command button should be enabled.</p> <p>Requirement 3: On clicking command buttons Rectangle, Square, Oval, Circle, Rounded Rectangle, Rounded Square the respective shape should be displayed.</p> <p>Requirement 4: On Clicking Clear Shape command button the status of requirement 1 should be resumed.</p> <p>(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.</p> <p>(b) Write a procedure DisableControl to disable the controls as per requirements in 1 and 3.</p> <p>(c) Write a procedure EnableControl to enable the controls as per requirement in 2</p> <p>(d) Write code for requirement number 3</p> <p>(e) Write the code statement required for requirement number 4</p>			<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
Q5	<p>(a) Write the output of the following</p> <pre> j = 10 FOR i = 1 TO 4 x = i * j PRINT x j = j - 2 NEXT I </pre>			2

No.	Questions	Marks
	<p>(b) Rewrite the corrected program after removing syntax errors, underline the corrections</p> <pre> PRIVATE SUB Command1_Click() Dim P=1 as integer, C as integer FOR C=1 UPTO 10 P = P+1 IF P = 5 THEN P = 1 DISPLAY "P is equal to 5" ELSE DISPLAY "P is not equal to 5" LOOP C </pre>	2
	<p>(c) Rewrite the following code using IF .. ELSE without effecting the output of the code:</p> <pre> DIM Percentage AS Integer Percentage = val(txtpercent.Text) SELECT CASE Percentage CASE 60 TO 100 txtcategory.Text ="Excellent" CASE 40 TO 59 txtcategory.Text ="Very Good" CASE ELSE txtcategory.Text ="Need to work hard" END SELECT </pre>	2
	<p>(d) Write the following code segment using FOR... LOOP without effecting the output of the code:</p> <pre> Num=6 Temp=Num DO WHILE Num>=1 Temp=Temp-1 </pre>	2

No.	Questions	Marks															
	<pre> IF Temp MOD 2 = 0 THEN PRINT Temp," is Even" ELSE PRINT Temp," is Odd" END IF Num=Num-2 LOOP </pre> <p>(e) Write the output that the following code segment:</p> <pre> First = "Education" Second = "cat" PRINT First + "@" + Second PRINT INSTR(First, Second) PRINT Mid(LCASE(First),4,3) PRINT INT(18.2)+LEN(Second) </pre>	2															
6	<p style="text-align: center;">Section - C</p> <p>Answer the following questions</p> <p>(a)</p> <table border="1" data-bbox="277 1290 1171 1585"> <thead> <tr> <th>DEPT NO</th> <th>D NAME</th> <th>LOC</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>ACCOUNTING</td> <td>NEW YORK</td> </tr> <tr> <td>20</td> <td>RESEARCH</td> <td>DALLAS</td> </tr> <tr> <td>30</td> <td>SALES</td> <td>CHICAGO</td> </tr> <tr> <td>40</td> <td>OPERATIONS</td> <td>BOSTON</td> </tr> </tbody> </table> <p>Look at the above Dept table and give the output produced by the following PL/SQL code on execution:</p> <pre> DECLARE v_DeptID Dept.DeptNo%TYPE := 10; v_DeptName Dept.DName%Type; v_DeptCounter NUMBER (2) := 1; BEGIN LOOP </pre>	DEPT NO	D NAME	LOC	10	ACCOUNTING	NEW YORK	20	RESEARCH	DALLAS	30	SALES	CHICAGO	40	OPERATIONS	BOSTON	2
DEPT NO	D NAME	LOC															
10	ACCOUNTING	NEW YORK															
20	RESEARCH	DALLAS															
30	SALES	CHICAGO															
40	OPERATIONS	BOSTON															

No.	Questions	Marks																					
	<pre> SELECT DName INTO v_Deptment FROM Dept WHERE DeptNo = v_DeptID ; DBMS_OUTPUT.PUT_LINE (v_Deptment); v_DeptID := v_DeptID + 10 v_Counter := v_Counter + 1 EXIT WHEN v_Counter > 3; END LOOP; END; </pre> <p>(b) Rewrite the following code using WHILE loop (instead of FOR loop)</p> <pre> num := 3; FOR x IN 1..5 LOOP num := num + x; DBMS_OUTPUT.PUT_LINE(num); END LOOP; </pre> <p>(c) Write the output of the following PL/SQL code segment</p> <pre> BEGIN FOR i IN REVERSE 1..6 LOOP IF MOD (i, 2)=0 THEN DBMS_OUTPUT.PUT_LINE (TO_CHAR (i*10)); END IF; END LOOP; END; </pre> <p>(d) Write a PL/SQL function MyAddition which will accept two arguments of number type and returns the sum of both values.</p>	<p>2</p> <p>2</p> <p>4</p>																					
Q7	<p>Use the following structure of Customer table to answer the following questions</p> <table border="1" data-bbox="197 1800 1390 2018"> <thead> <tr> <th data-bbox="197 1800 357 1890">Column Name</th> <th data-bbox="357 1800 549 1890">Cust_ID (Primary Key)</th> <th data-bbox="549 1800 732 1890">Cust_Name</th> <th data-bbox="732 1800 900 1890">Cust_Add1</th> <th data-bbox="900 1800 1067 1890">Cust_Add2</th> <th data-bbox="1067 1800 1214 1890">Pin_Code</th> <th data-bbox="1214 1800 1390 1890">Cust_Phone</th> </tr> </thead> <tbody> <tr> <td data-bbox="197 1890 357 1957">Data type</td> <td data-bbox="357 1890 549 1957">NUMBER</td> <td data-bbox="549 1890 732 1957">VARCHAR2</td> <td data-bbox="732 1890 900 1957">VARCHAR2</td> <td data-bbox="900 1890 1067 1957">VARCHAR2</td> <td data-bbox="1067 1890 1214 1957">NUMBER</td> <td data-bbox="1214 1890 1390 1957">VARCHAR2</td> </tr> <tr> <td data-bbox="197 1957 357 2018">Length</td> <td data-bbox="357 1957 549 2018">7</td> <td data-bbox="549 1957 732 2018">30</td> <td data-bbox="732 1957 900 2018">20</td> <td data-bbox="900 1957 1067 2018">30</td> <td data-bbox="1067 1957 1214 2018">6</td> <td data-bbox="1214 1957 1390 2018">10</td> </tr> </tbody> </table>	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	
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																	

No.	Questions	Marks
	<p>(a) Write the SQL Command to create the above table including its Constraints</p> <p>(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.</p> <p>(c) Write a PL/SQL code to modify all the CUST_PHONE numbers by removing '2' if it starts with '2'.</p> <p>(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.</p>	<p>2</p> <p>2</p> <p>2</p> <p>4</p>

Informatics Practices (Theory Code : 065)

Marking Scheme

Sample Question Paper - III

TIME : 3 Hrs

MM : 100

Note

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

No.	Answers	Marks
SECTION - A		
Q 1.		
(a)	Open source software comes at no initial license cost. Proprietary software has to be bought by paying initial license fee as it is the legal property of a person or a company that usually sells it at a price. <i>(2 marks for the correct difference)</i>	2
(b)	i) Mozilla is used as a web browser. ii) PHP is a scripting language originally designed for producing dynamic web pages <i>(1 Mark each for correct purpose)</i>	2
(c)	In ER Modeling ,an Entity is used to model a physical thing in question but in Object Modeling technique it is treated as Object. The collection of similar entities is termed as Entity Set but common collection of objects refers to a repository called Class. <i>(2 marks for the correct difference)</i>	2
(d)	A data warehouse is a repository of an organization's electronically stored data which helps in query and any analysis on that data. <i>(2 marks for the correct answer)</i>	2
(e)	In Banking we can use Business Computing for logging and maintaining daily transactions and reporting requirements. In Financial Accounting of small scale or large scale industries for entering transactions of financial nature and generation of Ledgers, Vouchers, P&L A/C, Balance Sheet etc.	2

No.	Answers	Marks
<p>Q2.</p> <p>(a)</p> <p>(b)</p> <p>(c)</p> <p>(d)</p>	<p>Answer the following questions:</p> <p>SQL is called Structured Query Language and PL/SQL is called the Programming Language in SQL.</p> <p>SQL does not supports Decision Making and Looping constructs while PL/SQL does support all these features and also exploits benefits of SQL Commands in it.</p> <p><i>(2 marks for stating any 2 correct differences)</i></p> <p>Cursors are the work areas for SQL SELECT statements to fetch records from a database table and work with each record on record-by-record basis.</p> <p>Triggers supports event based execution of code statements in database. A trigger gets initiated on the events such as Updating of records, Deletion of records etc. and can be triggered on Statement Level or Row Level.</p> <p><i>(2 marks for the correct difference)</i></p> <p>A Distributed database may be stored in multiple computers located in the same physical location, or may be dispersed over a network of interconnected computers. In a distributed database ,relations are generally divided into logical units called fragments.</p> <p><i>(2 marks for stating the correct answer)</i></p> <p>PL/SQL block is a set of PL/SQL statements, which can be executed to perform some identifiable task</p> <p>Following are the PL/SQL Block types with general syntax</p> <p>Anonymous: PL / SQL Block without any name</p> <p>Syntax for Declaring an Anonymous PL/SQL Block</p> <pre>[DECLARE] BEGIN --Statements [EXCEPTION] END;</pre> <p>Procedure: Sub programs, which can take arguments.</p> <p>Syntax for Declaring a Procedure</p> <pre>CREATE OR REPLACE PROCEDURE proc_name IS</pre>	<p>2</p> <p>2</p> <p>2</p> <p>4</p>

No.	Answers	Marks
	<pre> BEGIN --Statements [EXCEPTION] END; </pre> <p>Function: A function is similar to a procedure and must return a value.</p> <p>Syntax for Declaring a Function</p> <pre> CREATE OR REPLACE FUNCTION name RETURN datatype IS BEGIN --Statements RETURN value; [EXCEPTION] END; </pre> <p><i>(1 mark for correct definition)</i> <i>(1 mark for naming all 3 types of PL/SQL blocks)</i> <i>(2 marks for giving example of each type)</i></p>	
Q3.		
(a)	<p>For comments we can use Single Quotation mark character (') .</p> <p>For breaking a long line of code to the next line we use _(underscore) character.</p> <p>For Example:</p> <pre> ' This is a Comment in Visual Basic MsgBox "Here the Line Breaks into" &_ "New Line in code window" </pre> <p><i>(1 mark each for both the parts of question)</i></p>	2
(b)	<ol style="list-style-type: none"> 1. Identify the problem 2. Propose Solutions 3. Identify a suitable solution 4. Write the Code 	4

No.	Answers	Marks
(c)	<p>5. Test the solution</p> <p>6. Deliver the solution</p> <p>For Example</p> <p>Task: Write a code segment to find out whether a number is Even or Odd</p> <p>1. Identify the problem</p> <p>The task is to check a number for Even or Odd</p> <p>2. Propose Solutions</p> <p>There is one Solution which requires checking of the number to be divisible by 2 if it is then is a Even number otherwise it is a Odd number</p> <p>3. Identify a suitable solution</p> <p>The proposed solution is ideal for this task</p> <p>4. Write the Code</p> <pre>Dim N as Integer N=13 IF N Mod 2 =0 Then MsgBox "Even Number" Else MsgBox "Even Number" End If</pre> <p>5. Test the solution</p> <p>Test the above code for different values of N and then finally</p> <p>6. Deliver the solution</p> <p><i>(½ mark each for all 6 steps)</i></p> <p><i>(1 mark for a suitable example)</i></p> <p>(i) Modular Programming</p> <p>An approach of dividing a big programming task into small manageable program modules</p> <p>(ii) Object Oriented Programming</p> <p>A programming technique used to program with Object Oriented Programming languages and follows object oriented programming paradigms.</p>	4

No.	Answers	Marks
	<p>(iii) Event Driven Programming</p> <p>In this type of programming the Events plays major role to execute a set of program code. Events are the actions such as Mouse Click, Double Click, Key Press etc.</p> <p>(iv) RAD</p> <p>Rapid Application Development is the current programming approach in which a prototype (or sample model) of the software application is made much before its actual implementation to give a feel of application before starting working with the actual code behind the application.</p> <p>(1 mark each for each brief explanation)</p>	
	<p>Section - B</p>	
<p>Q4.</p>		
<p>(a)</p>	<p>Private Sub DrawShape ()</p> <p style="padding-left: 40px;">shpPlay.Height =2000</p> <p style="padding-left: 40px;">shpPlay.Width=3000</p> <p style="padding-left: 40px;">shpPlay.Top=1500</p> <p style="padding-left: 40px;">shpPlay.Left=4000</p> <p style="padding-left: 40px;">shpShape.Visible =True</p> <p>End Sub</p> <p><i>(½ mark for setting height and width of shape)</i></p> <p><i>(½ mark for setting Top)</i></p> <p><i>(½ mark for setting Left)</i></p> <p><i>(½ mark for displaying the shape)</i></p>	<p>2</p>
<p>(b)</p>	<p>Private Sub DisableControl ()</p> <p style="padding-left: 40px;">cmdDrawShape.Enabled = True</p> <p style="padding-left: 40px;">cmdRectangle.Enabled =False</p> <p style="padding-left: 40px;">cmdSquare.Enabled =False</p> <p style="padding-left: 40px;">cmdOval.Enabled =False</p> <p style="padding-left: 40px;">cmdCircle.Enabled =False</p> <p style="padding-left: 40px;">cmdRoundedRectangle.Enabled =False</p> <p style="padding-left: 40px;">cmdRoundedSquare.Enabled =False</p>	<p>2</p>

No.	Answers	Marks
	<pre>cmdClearShape.Enabled =False ShpPlay.Visible =False End Sub</pre> <p><i>(1 mark for fulfilling Requirement 1)</i> <i>(1 mark for fulfilling Requirement 3)</i></p>	
(c)	<pre>Private Sub EnableControl () cmdDrawShape.Enabled = False cmdRectangle.Enabled =True cmdSquare.Enabled =True cmdOval.Enabled =True cmdCircle.Enabled =True cmdRoundedRectangle.Enabled =True cmdRoundedSquare.Enabled =True cmdClearShape.Enabled =True ShpPlay.Visible =False End Sub</pre> <p><i>(1 mark for enabling all command buttons except DrawShape)</i> <i>(1 mark for disabling DrawShape command button)</i></p>	2
(d)	<p>The following code statement is to be embedded in the click event of each of the respective command button with the respective shape name (Such as vbShapeRectangle, vbShapeSquare etc.)</p> <p>For the Click event of Command Button cmdRectangle we will write the code fragment in it.</p> <pre>shpPlay.Shape =vbShapeRectangle shpPlay.Visible=True</pre> <p><i>(1 mark each for both the statements.)</i></p>	2
(e)	<pre>DisableControl</pre> <p>Or</p> <pre>cmdDrawShape.Enabled = True</pre>	2

No.	Answers	Marks
	<p>cmdRectangle.Enabled =False cmdSquare.Enabled =False cmdOval.Enabled =False cmdCircle.Enabled =False cmdRoundedRectangle.Enabled =False cmdRoundedSquare.Enabled =False cmdClearShape.Enabled =False ShpPlay.Visible =False</p> <p><i>(½ mark for enabling DrawShape command button)</i> <i>(½ mark for disabling all other command buttons except DrawShape)</i> <i>(1 mark for not displaying any shape on form)</i></p>	
<p>Q5. (a)</p>	<p>Output: 10 16 18 16</p> <p><i>½ mark for each line of correct output</i></p>	<p>2</p>
<p>(b)</p>	<pre>PRIVATE SUB Command1_Click() Dim P,C as integer P =1 FOR C=1 TO 10 P = P+1 IF P = 5 THEN P = 1 PRINT "P is equal to 5" ELSE PRINT "P is not equal to 5"</pre>	<p>2</p>

No.	Answers	Marks
(c)	<p>ENDIF NEXT C</p> <p><i>(½ mark each for correction of any 4 errors(Both the PRINTs to be treated as one correction)</i></p> <p>If Percentage >=60 AND Percentage < = 100 Then txtcategory.Text ="Excellent" Elseif Percentage >= 40 Then txtcategory.Text ="Very Good" Else txtcategory.Text ="Need to work hard" End If</p> <p><i>(½ mark for IF statement)</i> <i>(½ mark for correct ELSEIF statement)</i> <i>(½ mark for ELSE statement)</i> <i>(½ mark for END IF statement)</i></p>	2
(d)	<p>Num=6 Temp=Num FOR NUM = 6 TO 1 STEP -2 Temp=Temp-1 IF Temp MOD 2 = 0 THEN PRINT Temp," is Even" ELSE PRINT Temp," is Odd" END IF NEXT NUM</p> <p><i>(½mark for correct FOR statement)</i> <i>(½ mark for using correct Step)</i> <i>(½ mark for using correct NEXT statement)</i> <i>(½ mark for the body of loop)</i></p>	2

No.	Answers	Marks
(e)	Output: Education@cat 4 cat 21 <i>(½ mark for each line of correct output)</i>	2
Section - C		
Q6.		
(a)	Output: ACCOUNTING RESEARCH SALES <i>1 mark for first line of output</i> <i>1 mark each for second and third line of output.</i>	2
(b)	<pre> num := 3; x := 1; WHILE (x <=5) LOOP num := num + x; DBMS_OUTPUT.PUT_LINE(num); x := x+1; END LOOP; </pre> <i>(½ Mark for initializing x to 1)</i> <i>(½ Mark for using While LOOPstatement correctly)</i> <i>(½ Mark for incrementing x)</i> <i>(½ Mark for END LOOP)</i>	2
(c)	60 40	2

No.	Answers	Marks
(d)	<p>20</p> <p><i>(1 mark for first line of output)</i></p> <p><i>(1 mark each for second and third line of output.)</i></p> <pre>CREATE OR REPLACE FUNCTION MySum (V_NumA IN NUMBER, V_NumB IN NUMBER) RETURN NUMBER AS V_Sum NUMBER; BEGIN V_Sum := V_NumA + V_NumB; RETURN V_Sum; END;</pre> <p><i>(1 mark for header of Function)</i></p> <p><i>(1 mark for using correct arguments and their data type)</i></p> <p><i>(1 mark for calculating sum)</i></p> <p><i>(1 mark for Returning the sum)</i></p>	4
Q7. (a)	<pre>CREATE TABLE Customer (Cust_ID NUMBER(7) PRIMARY KEY, Cust_Name VARCHAR2 (30), Cust_Add1 VARCHAR2 (20), Cust_Add2 VARCHAR2 (30), Pin_Code NUMBER (6), Cust_Phone VARCHAR2 (10));</pre> <p><i>(1/2 mark for CREATE TABLE command)</i></p> <p><i>(1 mark for fields with data types)</i></p> <p><i>(1/2 mark for PRIMARY KEY constraint)</i></p>	2
(b)	<pre>BEGIN UPDATE Customer Set Cust_Phone = '2' Cust_Phone WHERE Length (Cust_Phone) =7; END;</pre>	2

No.	Answers	Marks
(c)	<p><i>(1 mark for Update command)</i></p> <p><i>(½ mark for SET)</i></p> <p><i>(½ mark for WHERE clause)</i></p> <p>BEGIN</p> <p>UPDATE Customer Set Cust_Phone = SUBSTR (Cust_Phone ,2, LEN(Cust_Phone)-1) WHERE Cust_Phone Like '2%';</p> <p>END;</p> <p><i>(½ mark for Update command)</i></p> <p><i>(½ mark for SET)</i></p> <p><i>(½ mark for WHERE clause)</i></p> <p><i>(½ mark for using SUBSTR)</i></p>	2
(d)	<p>CREATE OR REPLACE TRIGGER TrigBeforeUpdateCustomer</p> <p>BEFORE UPDATE ON CUSTOMER</p> <p>BEGIN</p> <p>DBMS_OUTPUT.PUT_LINE ('Starting Update');</p> <p>END;</p> <p>And</p> <p>CREATE OR REPLACE TRIGGER TrigAfterUpdateCustomer</p> <p>AFTER UPDATE ON CUSTOMER</p> <p>BEGIN</p> <p>DBMS_OUTPUT.PUT_LINE ('End of Update');</p> <p>END;</p> <p><i>(2 marks for each trigger)</i></p>	4