

TKM Centenary Public School & Junior College, Kollam
First Pre-Board Examination January 2007

Code No. 065

- Please check that this question paper contains 4 printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 7 questions.
- Please write down the serial number of the question before attempting it.

INFORMATICS PRACTICES

Time allowed: 3 hours

Maximum Marks: 70

Note:

- (i) *All questions are compulsory.*
- (ii) *Section A consists of 30 marks.*
- (iii) *Section B and Section C are of 20 marks each.*
- (iv) *Answer the questions after carefully reading the text.*

SECTION A

1. Answer the following questions

- (a) What is the difference between shareware and freeware? Explain it with an example. 2
- (b) Define data Mining using suitable example. 2
- (c) What is an ER-Model? Design ER Model of Teacher-Teaches-Students and write the attributes of the Entity. 2
- (d) Elaborate the term SDLC. Explain its essential components using a sample case study. 4

2. Answer the following questions

- (a) What do you mean by Syntax and Semantics errors? 2
- (b) What are Arrays? How do we create an array whose lower and upper bounds are 5 and 25. 2
- (c) Differentiate between the procedures and functions in VB? Give examples for each 3
- (d) What are different data access mechanisms are available in VB? How are these different from each other. 3

3. Answer the following questions.

- (a) What is a transaction in PL/SQL? What commands are available in PL/SQL for transaction handling? 2

- (b) What is the use of a Sub-Query ? Which query gets executed first, the parent query or the sub-query? 2
- (c) What is the usage of %ROWTYPE attribute? Explain with the help of an example 2
- (d) What is the difference between IN and OUT parameters of PL/SOL procedure? 2
- (e) Differentiate between cursor and trigger using an example each. 2

SECTION B

4. Answer the following questions.

College of Engineering offers two postgraduate courses, one in computers and the other in Management. The students can avail certain optional facilities. The Basic Interface for accepting the details of facilities availed by a student is as follows:

The screenshot shows a graphical user interface with the following elements:

- Enrollment No.:** A text input field.
- Course:** Two radio buttons labeled "MBA" and "MCA".
- Buttons:** "Calculate" and "Clear" buttons.
- Facilities Available:** Three checkboxes labeled "Library", "Mess", and "Hostel".
- Charges:** Three stacked text input fields.

Write the code and event procedures for incorporating the following functionality:

- (a) The LIBRARY facility should be selected by default 1
- (b) The default course choice should be M.C.A. 1
- (c) Whenever user selects the HOSTEL facility, the MESS facility should get selected automatically, which the user can deselect later if desired. 2
- (d) Give that the charges for library, mess and hostel are Rs. 500, Rs.1500 and Rs. 2000 respectively per month. Write a function that calculates the charges per semester (six months), for the facilities availed. 4
- (e) The function should be called when user clicks the calculate button and the results should be displayed in message box. 2

5. Answer the questions based on the table Transactions given below:

- (a) Write a visual basic procedure which takes a number as argument and displays whether it is prime or not. A prime is one which is not divisible by any number other than 1 and itself. 4

- (b) Find the output of the following program: 2

```
Private Sub Command1_click()  
    Dim a, b, c as Long  
    a=5  
  
b=6  
    c=add((a), (b))  
Print " The sum is : "&c  
End Sub  
Private Function add(x&, y as long) as long  
    Print "the sum is " &x+ y  
    add=x+y+10  
End Function
```

- (c) Correct the errors in the following code fragment. Underline each correction: 2

```
X = 5  
Do while X < = 10  
    If x mod 2 = 0  
        Print X  
    End if  
    X = X+1  
Loop While X < = 10
```

- (d) Rewrite the following code segment using Select...Case instead of if...else...end if. 2

```
If marks >= 85  
    MsgBox "Excellent"  
Elseif marks >= 60  
    MsgBox "Above Average"  
Elseif marks >= 50  
    MsgBox "Average"  
Else  
    MsgBox "Need to work harder"  
End if
```

SECTION C

6. Answer the following questions:

- (a) Find the output of the following PL/SQL code fragment. Assume X to be a bind variable with an initial value of 9. 2

```
BEGIN  
FOR I IN 1..4 LOOP  
    DBMS_OUTPUT.PUT_LINE (:X);  
    IF :X = 10 THEN  
        :X := :X+10;  
    ELSIF :X>10 THEN  
        :X := :X/10;  
  
ELSE
```

```

        :X := :X * 10;
    END IF;
    END LOOP;
    END;

```

- (b) Find the errors in the following PL/SQL code and rewrite the corrected code underlining the correction made: **2**

```

    DECLARE
        v_no Emp.Ename & ROWTYPE;
        v_sal NUMBER (7,2)= 1000;
    BEGIN
    LOOP
    SELECT sal TO v_sal FROM Emp WHERE Eno=v_no;
        v_no = v_no + 1;
        EXIT FOR v_no > 5;
    END LOOP;
    END;

```

- (c) What are exceptions? How can you handle exceptions in PL/SQL? **2**
 (d) Write a PL/SQL function that takes two numbers as argument and returns the sum of all the numbers between them. **4**

7. Answer the following questions based on the two tables given below:

DEPARTMENT

Column Name	Data type	Size	Constraint
DEPT_NO	NUMBER	5	Primary Key
DEPT_NAME	VARCHAR	10	Not null

TEACHER

Column Name	Data type	Size	Constraint
TNO	CHAR	4	Primary Key
TNAME	VARCHAR	20	Not null
TADDRESS	VARCHAR	30	
SALARY	NUMBER	7,2	>2000
DEPT_NO	NUMBER	5	Foreign key Department (dept_no)
DOJ	DATE		NOT NULL

- (a) Write SQL command to create tables TEACHER and DEPARTMENT including its constraints. **3**
 (b) Create a view based on the tables TEACHER and DEPARTMENT to show TNAME,DEPT_NAME,SALARY and DOJ of teachers whose date of joining between '1-1-2005' to '31-12-2006'. **2**
 (c) Write a cursor to display all the teachers records from TEACHER table who are getting salary below 15000. **3**
 (d) Write a before trigger to raise error when user inserts salary greater than 25000 in the TEACHER table. **2**

OR
