

**Series OSS**

**Code No. 90**

Candidates must write the Code on the title page of the answer-book.

Roll No.

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- Please check that this question paper contains 8 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.
- 15 minutes time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the student will read the question paper only and will not write any answer on the answer script during this period.

## INFORMATICS PRACTICES

*Time allowed : 3 hours*

*Maximum Marks : 70*

**Note :**

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

### SECTION A

1. Answer the following questions :

- Expand the terms OSS and W3C.

2

- (b) What are the following software used for ? 2
- (i) PHP
- (ii) MySQL
- (c) Name any four application areas of databases. 2
- (d) What are the different types of relationships that can be depicted through an ER model ? Explain the concept of ER Model using the case study of a Ticket Reservation System that has three entities Ticket, Passenger and Train. Assume that each passenger can buy more than one ticket. 4
- 2. Answer the following questions :**
- (a) Differentiate between the For...Next and For Each...Next loop of Visual Basic giving a suitable example of each. 2
- (b) Name and explain the usage of any two types of modules available in Visual Basic. 2
- (c) What are data-aware controls ? Name any two ActiveX data aware controls that can be used on a form. 2
- (d) Explain the term ADO object model. Differentiate between the Connection Timeout and Command Timeout properties of the Connection object. 4
- 3. Answer the following questions :**
- (a) Differentiate between row-level and statement-level triggers. 2
- (b) Define the terms Candidate key and Foreign key with respect to a database. 2
- (c) Differentiate between DDL and DML commands. Give one example of each type of command. 2
- (d) Mention any two advantages of PL/SQL as compared to SQL. 2
- (e) Name the keyword used to
- (i) allow duplicate rows in a query.
- (ii) avoid duplicate rows in a query. 2

## SECTION B

4. Read the following case study and answer the questions that follow :

Mr. Presi of Super Store decided to computerize the billing department. The accounts manager at Super Store is creating a billing software to generate the bill during the sale period. A new bill is generated for each item sold. The discount is given based on the item category. An additional discount of 5% is given to the Store Membership Card holders. The following is the data entry screen used at the store :

The screenshot shows a window titled "Calculate Bill" with standard window controls (minimize, maximize, close) in the top right corner. The main content area is titled "SUPER STORE BILL" and contains the following fields and controls:

- Bill No**: A text input field.
- Bill Date**: A date input field.
- Category**: A group box containing three radio buttons:  Men's,  Women's, and  Kid's.
- Item name**: A text input field.
- Price**: A text input field.
- Discount**: A text input field.
- Membership Card Holder**: A checkbox.
- Final Price**: A text input field.
- Buttons**: Three buttons at the bottom: "Calculate", "Clear", and "Exit".

The list of controls for the above form is as follows :

<b>Object Type</b>	<b>Object Name</b>	<b>Description</b>
Form	FrmBill	The main form
Text Box	TxtBillno	To enter Bill Number
	TxtBillDate	To display System Date
	TxtIName	To input Item Name
	TxtPrice	To input Item Price
	TxtDisc	To display Discount
	TxtFinal	To display Final Price
Option Buttons	OptMens	To select Men's Category
	OptWomens	To select Women's Category
	OptKids	To select Kid's Category
Check Box	ChkMember	To be checked for members
Command Button	CmdCalc	To calculate discount and Final Price
	CmdClear	To clear all textboxes
	CmdExit	To Exit from the application

- (a) Write the code for the CmdClear command button to clear all the textboxes except the TxtBillDate textbox. 1
- (b) Write the code for the form load event of FrmBill so as to : 2
- (i) Display the system date in the TxtBillDate textbox.
- (ii) Disable the TxtBillDate, TxtDisc and TxtFinal textboxes.
- (c) Write the code for the change event of the TxtPrice textbox to ensure that the user does not enter a negative or a zero value. If a negative or a zero value is entered then the textbox should be made blank and a warning message should be displayed. 3

- (d) Write the code for the CmdCalc command button to display the discount and final price in the TxtDisc and TxtFinal textboxes respectively. Note that Final price is calculated as price – discount and the discount is calculated based on the category and price according to the following table. Also remember to give an additional 5% discount for membership card holders i.e. if the ChkMember checkbox is checked.

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<i>Category</i>	<i>Price</i>	<i>Discount</i>
Men's	<1000	30%
	>=1000	50%
Women's	<1500	40%
	>=1500	50%
Kid's	<500	20%
	>=500	30%

5. Answer the following questions :

- (a) Find the errors from the following code segment and rewrite the corrected code underlining the correction made.

2

```
Private Function IsPrime (num As Integer) As Bool
Dim limit As Integer
    limit = num / 2
    For ctr = 2 To limit
        If num Modulo ctr = 0 Then
            Exit For loop
        End If
    Next
    IsPrime = IIf(ctr > limit, True, False)
End Sub
```

- (b) Find the output of the following code :

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```
Dim astr as String
Dim I as Integer
I = 1
astr = "Come"
Do While I <= Len(astr)
    Print Mid(astr, I)
    I = I + 1
Loop
```

- (c) Rewrite the following code using If Then Else construct without affecting the output :

2

```
Dim a As Integer
a = 1
Select Case a
    Case 1
        Print "Sunday"
    Case 2 To 6
        Print "WeekDay"
    Case 7
        Print "Nearing Weekend"
End Select
```

- (d) Write a Visual Basic procedure that takes a number as argument and displays the sum of all the digits in the number. For example, if the argument passed is 354, the procedure should display 12 (i.e. 3+5+4).

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### SECTION C

6. Read the questions given below and answer accordingly :

- (a) Write the output produced by the following PL/SQL code :

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```
DECLARE
    A NUMBER;
    B NUMBER;
    TEMP NUMBER;
BEGIN
    FOR X IN 1..4 LOOP
        TEMP := A;
        A := B;
        B := TEMP;
        A := A + 1;
        B := B - 1;
        DBMS_OUTPUT.PUT_LINE('A = ' || A);
        DBMS_OUTPUT.PUT_LINE('B = ' || B);
    END LOOP;
END;
```

- (b) Find the errors from the following PL/SQL code and rewrite the corrected code underlining the correction made.

2

DECLARATION

V\_MNO MOVIES.MOVIENO%TYPE;

V\_TITLE MOVIES.TITLE%TYPE;

V\_PRICE MOVIES.PRICE%TYPE;

BEGIN

V\_MNO EQUALS 101

LOOP

SELECT TITLE, PRICE, RATING INTO V\_TITLE, V\_PRICE, V\_RATE

FROM MOVIES

WHERE MOVIENO = V\_MNO;

DBMS\_OUTPUT.PUTTEXT(V\_TITLE||' '||V\_PRICE);

EXIT WHEN V\_RATE < 4;

V\_MNO := V\_MNO + 1;

LOOP END;

END;

- (c) Differentiate between the IN and IN OUT modes of a parameter in a PL/SQL block.

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- (d) Write a PL/SQL Function POWER that takes two numbers as arguments and returns the value of the first number raised to the power of the second.

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7. Answer the questions based on the table CompLab given below :

**Table : CompLab**

Column Name	Data Type	Size	Constraint	Description
It_Code	NUMBER	4	PRIMARY KEY	Item Code
It_Cat	CHAR	1	'H' or 'S'	Item category as Hardware or Software
It_Name	VARCHAR2	25	NOT NULL	Name of the item
It_Cost	NUMBER	8,2		Cost of each unit of an item
It_Qty	NUMBER	3		Item Quantity in the Lab
Dt_Pur	DATE			Date of Purchase

- (a) Write the SQL command to create the table CompLab including the constraints. 2
- (b) Write the SQL command to display the details of the item with the maximum It\_Cost. 2
- (c) Write the PL/SQL code to increase the item cost by 10% for an item code accepted from the user if the date of purchase of the item is later than 12-Oct-2005. 3
- (d) Write the PL/SQL code to create a stored procedure Disp\_Details to display the details of all the items with It\_Cat as 'H'. The code should also display the total quantity of all such items. 3