

This question paper contains 5 printed pages.]

Your Roll No.

1737-A

A

MCA/IV Sem.

**Paper–MCA–404 : DATABASE APPLICATIONS
(NC)**

Time : 2 Hours

Maximum Marks : 50

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

Attempt all questions.

Each question carries equal marks.

Parts of a question should be answered together

1. Consider the ORDERS tabel.

(Order #, Customer #, Orderdate, Shipdate, Shipstreet, Shipcity,
Shipstate, Shipzip)

(a) Modify the ORDERS table to include a count called OrderCt
that contains the number of orders in a month. 2

(b) Write a database trigger named CurrOrder Trigger that fires
whenever a row is inserted or deleted from the ORDERS Table.
The trigger should automatically increase the value of OrderCt
whenever a new order is received and decrease the value of
OrderCt whenever an existing order is cancelled. In addition,

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the value of OrderCt should be reset to zero on first day of every month. 4

- (c) Write a database trigger named Mandatory Fields Trigger that fires whenever a row is inserted in the ORDERS Table. The trigger should ensure that Customer# and Orderdate fields should not be blank. 4
- (d) Write a cursor "Recent_Orders_Cur" that displays the two most recently shipped orders. 4
- (e) Name the cursor attribute you would use (if any) for each of the following requirements : 3 × 2
- (i) If the "Recent_Orders_Cur" cursor is already open, fetch the next record. Otherwise, open the cursor.
 - (ii) If the FETCH did not return any records from the "Recent_Orders_Cur" cursor, exit the loop.
 - (iii) If the number of rows retrieved exceeded 100, notify the manager.
2. Consider an Oracle database for a video store. Assume that the database contains a table that stores the information about the videos rented by customers—call it Rent_Info. This table has at least the following fields : customer name, date out, date due in, date returned (a video may be returned in time, early or late) and fine (customers are charged a fine if the return date is after the date due in).
- (a) Write a procedure called Rent_Video that facilitates video rental as follows : When a video is rented by a customer, a tuple is

inserted in *Rent_info*. This tuple contains the *name of the customer*, the *date-out* as the current system date and the *date-due* as the date seven days from the *date-out*. When a video is returned, the *return-date* is updated from NULL to the current date. 5

- (b) Write a procedure that calculates the fine according to the following algorithm : 5
- (i) for the first 3 days of delay, charge one rupees per day;
 - (ii) for the following 3 days charge 2 rupees per day;
 - (iii) after that charge a fine of 3 rupees per day.
3. (a) Create a user defined type *room_t* with attributes *Room_no*, *Hotel_No*, type of the room and *Price*. 2
- (b) How does a BFILE data type store unstructured binary data ? What is the maximum amount of storage it can provide? 2
- (c) Which package can be used to make changes to LOB fields? Give an example. 2
- (d) When is the predefined exception *NO_DATA_Found* raised? Explain with an example. 2
- (e) (What are the most appropriate Keyword(s)/ words(s)) to complete the following exception : 2

DECLARE

out_of_stock EXCEPTION;

number_on_hand NUMBER (4);

```
BEGIN
  IF number_on_hand < 1 THEN
    _____ X _____ out_of_stock;
  END IF;
EXCEPTION
  WHEN _____ Y _____ THEN
  END;
```

4. A Reference Library needs a web interface (shown below) to get details about new books for maintaining its database.
- (a) You are required to design a form in HTML to meet the aforesaid requirement. 4

Publisher Details:	
Publisher Name	<input type="text"/>
Publisher No.	<input type="text"/>
Company	<input type="text"/>
Type of Book	<input checked="" type="radio"/> Technical <input type="radio"/> Non Technical
Location	<input checked="" type="checkbox"/> Mumbai <input type="checkbox"/> Delhi
Select-A- Book	<input type="text" value="NySQL"/>
Publisher Detail	<input type="text"/>
Comments	<input type="text"/>
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>

(b) You are also required to validate the information entered in the form as per the following validation rules : 3 × 2

- (i) Publisher Name and Publisher code are mandatory fields. The user should not be able to leave them blank.
- (ii) The Publisher name should be in uppercase.
- (iii) The Publisher code is a six character alphanumeric string with first character : an uppercase alphabet; 2nd and 3rd characters: numbers; and 4th, 5th, 6th characters : lowercase alphabets.