

[This question paper contains 5 printed pages.]

Your Roll No. ....

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PGDCA/II Sem.

Paper—CS-2.2

DATABASE DESIGN

(Admission of 1998 and onwards)

Time : 3 Hours

Maximum Marks : 100

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

*Attempt All questions. All parts of  
a question must be answered together.*

1. (a) Give the SQL statements for the following :
  - (i) Create a sequence which generates the nos. from 10 onwards with an increment of 10 each. The maximum number generated should be 1000. The numbers should be generated in cyclic manner. 3
  - (ii) ADD a column. Date-of-join (having data type as Date) to the table STUDENT. No NULL value is allowed and it is a unique key for the table. 3
  - (iii) Give object privileges of select and update to user 'USER1'. This user should be able to

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further pass on these privileges to other users.

The privileges should be given for table  
'STUDENT'. 3

- (b) What is an outer join? How do we use it? Illustrate with the help of an example. 5
- (c) What is a package? Why do we use packages? Give commands to compile a package. 6
2. (a) What are Exceptions? Why do we need to handle predefined exceptions such as Zero-Divide? How are predefined exceptions different from user-defined exceptions. 5
- (b) Differentiate between the following :
- (i) % not found and NO-DATA-FOUND
  - (ii) Property class and Named visual attribute
  - (iii) View and table
  - (iv) Data block and Control block. 8
- (c) What are % type and % rowtype data types? Discuss their advantages over simple data type. Illustrate your answer with example. 4
- (d) In a master-detail relationship created at the time of generating master-detail form, explain the meaning of master-delete property, deferred and auto query property of the relationship. 3

3. (a) What are triggers? Explain with example when the use of the following triggers will be made :
- (i) Before trigger (ii) After trigger  
 (ii) Row trigger (iv) Statement trigger 6
- (b) Illustrate with the help of example, the use of the following :
- (i) NVL, (ii) DE CODE, (iii) LPAD, (iv) INSTR. 6
- (c) What are database triggers? How are they different from Application triggers? Give general syntax for defining a database trigger? Explain each clause of the syntax in detail. 8
4. (a) Given course table giving the list of courses offered by the university. Another table student has list of students offering the above courses.
- COURSE (C-id, Cname)  
 STUDENT (S-id, Sname, Date-of-join, Cid)
- Write a PL/SQL block to reterive the course code from the course table one by one using cursors, pass these codes as parameter to another cursor defined to reterive all the students studying the course passed as parameter from the STUDENT table. 8
- (b) FACULTY and STUDENT tables store details about faculty and students respectively. The course table stores the course name, title, student id enrolled for the course and faculty id, teaching the course.

STUDENT (SID, SNAME, BIRTH DATE; ADDRESS)

COURSE (CID, C-TITLE, STD, FID)

FACULTY (FID, FNAME, DEPT NO, SALARY)

In reference to the above tables write SQL queries for the following :

- (i) Display the salary and names of all the faculty members whose salary is less than that of the faculty 'SMITH'.
  - (ii) Display the names of all the students who are enrolled for the course having cid 'C01'.
  - (iii) Display the max and average salary dept-wise for all those departments whose average salary is more than the average salary of dept. no. 10.
  - (iv) Display the list of all the faculty members whose name starts with A.  $2 \times 4 = 8$
  - (c) Write a database trigger which is fired on deleting a faculty from the FACULTY table. The trigger should delete all the course taught by that faculty from the COURSE table. 4
5. (a) What are alerts? Why do we use them? 3
- (b) Illustrate with help of an example use of SET-ITEM-PROPERTY. 3
- (c) USE the FACULTY table :
- FACULTY (SNAME, SID, Dept. no, Salary)

Write a PL/SQL block to display the details of the faculty with the given name.

- (i) If there are two or more faculty members with the same name or there is no faculty member with the given name, a suitable exception should be raised giving appropriate message.
  - (ii) If only one faculty member is there with the given name, display the details.
  - (iii) The PL/SQL code should be able to handle any other error/exception by displaying the error code and the error message. 8
- (d) Discuss the use/purpose of the following in oracle forms :
- (i) Display Items
  - (ii) Check Box
  - (iii) PL/SQL Library. 6