Course Code : CST 413-3   KOLP/RW – 19 / 9157

Seventh Semester B. E. (Computer Science and Engineering) Examination

Elective – I

ADVANCED OBJECT ORIENTED TECHNOLOGIES

Time : 3 Hours]   [Max. Marks : 60

Instructions to Candidates :—
   (1)   All questions carry marks as indicated against them.
   (2)   Assume suitable data and illustrate answers with neat sketches wherever necessary.

1.   (a)   List the different types and requirement of Enterprise java beans.
           What are the advantages of using Enterprise java beans ?   5 (CO 1)

     (b)   Given table BOOK as follows :

Column	Type	Metadata
BookNo	NUMBER	Primary Key
Book_Title	VARCHAR2	Blank not allowed
Book_Author	VARCHAR2	Blank not allowed
Book_Publisher	VARCHAR2	Blank not allowed
Manu_Dt	DATE	May be NULL

           Write an entity class for the given table BOOK.   5 (CO 1)

2.   (a)   For the following relational schema :
           CUSTOMER (C_ID, C_NAME, C_SALARY, Defaulter)

           Table is created in the Database. Create Scrollable and Updateable resultset to traverse all rows of the table. While traversing, if the total salary of the Customer is less than 10000 then update the defaulter field to FALSE.
           5 (CO 1)

(b) For the following relational schema :

- Employee (employee–name, street, city)

- Works (employee–name, company–name, salary)

- Company (company–name, city)

(1) Find the names of all employees who earn more than the average salary of all employee of their company. Assume that all people work for at most one company.

(2) Find the names of all employees in the database who live in the same cities and on the same streets as do their managers.

(3) Find the names of all employees in the database who do not work for "World Corporation". Assume that all people work for exactly one company.

(4) Find the name of company that has the smallest payroll.

(5) Find the names of all employees in the database who earn more than every employee of "Small World Corporation". Assume that all people work for at most one company. 5 (CO 1)

OR

(c) Justify "Single Unit of Work" with respect to transaction management in JDBC and also explain properties and advantages of same. 5 (CO 1)

3. (a) Create a web application for Payment Billing Product using Servlet. An Institute having different branches at different locations wants to control and maintain the accountant salary and students personal and payment details.

Users of the system :

(1) Admin of institute.

(2) Accountant of each branch.

Requirements :

(1) Admin of institute.

(1) Create, Update and delete accountants detail after login.

(2) Can search branch wise accountant.

(2) Branch Accountant.

    (1) Can search the students personal and payment details as per requirement after login.

    (2) Can update the old students record.

    (3) Can save new student information.   10 (CO 2)

4.   (a)   Create a JSP page to search a student details from database by student ID (Assume suitable data structure).   6 (CO 2)

    (b)   Identify use of JSP action tags ? Discuss in detail jsp : useBean action tag with example.   4 (CO 2)

5.   (a)   Create a login module for the web application using struts framework.   5 (CO 3)

    (b)   How does spring support beans with collection of primitive types and collection of references ? Explain with an example.   5 (CO 3)

OR

    (c)   Elaborate the difference in working of singleton and prototype spring beans with the help of sample code.   5 (CO 3)

6.   (a)   Explain benefits of using Named Queries over Named Native Queries.

    Consider a class Vehiclesample.java (having variables vehicle_id, vehicle_name, owner) which represents table VEHICLE (vid, vname, owner)

    Write Named Query and Named Native Query for the following Cases :

    (1) To fetch all vehicle records having value of vname equal to a given value.

    (2) To fetch all vehicle records having value of vid between two given values.   6 (CO 3)

    (b)   Compare the working of eager and lazy fetch in Hibernate. What are the situations when eager fetch is better than lazy fetch and vice – versa ?   4 (CO 3)