



UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)

उत्तराखण्ड मुक्त विश्वविद्यालय हल्द्वानी (नैनीताल)

**BCA 2nd YEAR 3rd SEMESTER
ASSIGNMENT**

Last Date of Submission: 15 Jan 2011

Course Title: Introduction to DBMS

Course Code: BCA-303

Year: 2010-11

Maximum Marks: 40 Marks

Section 'A'

Section 'A' contains 08 short answer type questions of 5 marks each. Learners are required to answer 4 questions only. Answers of short answer-type questions must be restricted to 250 words approximately.

1. (a) With the help of a relational schema explain distinction among primary key, foreign key, candidate key and super key.
(b) Identify the drawbacks in file-based system. Identify the factors that influence in the selection of a DBMS.
2. (a) Compare and contrast data security and data integrity.
(b) Explain the three level architecture of DBMS.
(c) What are the limitations of Hierarchical model?
(d) List out the advantage of relational modeling of databases.
3. (a) Describe following relational operator with example:
 1. SELECT
 2. PROJECT
4. Consider the following schema:
PROJECT (project, project_name, chief_architect)
EMPLOYEE (empid, emp_name, age)
ASSIGNED_TO (project, empid)
Write the query for following:
 - I. Find empid of employees working on project numbered CC1005
 - II. Find details of employees working on both CC1005 and CC1008 project
 - III. Find details of employees whose name starts with 'A'
 - IV. Find details of employees not working on project CC1007

- V. Find details of employees whose age is greater than 30 and less than 45
5. Consider the following relation:
- Dept (deptno, deptname)
Emp (empno, empname, designation, salary, deptno)
- Write a cursor to give raise in salary by 15% for all the employees earning less than 15000 and 19% for all employees earning more than or equal to 15000.
6. Define trigger. Explain different types of triggers used in database.
7. Discuss the concept of centralized database and distributed database.
8. Consider the following relational database:
- Publisher (p_no, p_name, p_addr)
Book (book_no, book_name, price, p_no)
- Write a PL/SQL block, which will accept book number entered by user and print details of book.

Section 'B'

Section 'B' contains 04 long answer-type questions of 10 marks each. Learners are required to answer 02 questions only.

1. Draw an E-R diagram for an educational institute affiliated to some university, which offers courses in IT, Management, Law etc. Each department has a head of the department, faculty. Numbers of students are enrolled in each course. Make suitable assumption if required. Explain relationships in your E-R diagram.
2. Design relational schema for E-R diagram of above specification. Define integrity constraints. Write DDL statements to create tables.
3. Define normalization. With the help of an example relational schema explain it up to third normal form.
4. Describe following:
 - a. Object Oriented database
 - b. Exception in PL/SQL
 - c. COMMIT and ROLLBACK statement
 - d. Views
 - e. Functions vs. Procedures