

Total No. of Questions: 09

B.Tech. (CSE)/(IT) (2010 Batch Only) (Sem. – 5)

DATA BASE MANAGEMENT SYSTEM

M Code: 56525

Subject Code: CS-305

Paper ID: [A0466]

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION A

1. a) What is force writing?
b) What is logging?
c) What are check points?
d) What is log based recovery techniques?
e) What is transaction? Explain with examples
f) Explain importance of 5th normal form?
g) What are various classification of DBMS?
h) What are weak entities?
i) What is foreign key?
j) What is logical data independence?

SECTION B

2. Explain with the help of examples ACID properties in DBMS?
3. Explain by taking some examples difference between the terms serial schedule and serializable schedule?
4. Explain two phase locking protocols? Explain with example.
5. Solve the following on the given data base [using SQL]:

S (Sno, Sname, City, status)

P (Pno, Pname, color, weight)

SP(Sno, Pno, qty)

- a) Get supplier number who supplies maximum quantities?
- b) Get total quantity supplied by S1?

[you can make assumptions if needed]

6. Discuss the architecture of DBMS in brief.

SECTION C

7. Draw an ER diagram for the following application from the manufacturing industry:
 - a) Each supplier has a unique name.
 - b) More than one supplier can be located in the same city.
 - c) Each part has a unique part number.
 - d) Each part has a colour.
 - e) A supplier can supply more than one part.
 - f) A part can be supplied by more than one supplier.
 - g) A supplier can supply a fixed quantity of each part.

[please make necessary assumptions if needed]

8. Given the schema:

EMP(Fname, Lname, SSN, Bdate, Address, Sex, Salary, SuperSSN, Dno)

DEPT(Dname, Dnumber, MgrSSN Mgrstartdate)

DEPT-LOC(Dnumber, Dloc)

PROJECT(Pname, Pnumber, Ploc, Dnum)

WORKS_ON(ESSN, PNO, Hours)

[You can make assumptions if needed]

Give the relational algebra expression for the following:

- a) List female employees from Dno = 20 earning more than 50000.
 - b) List CSE deptt details
 - c) Retrieve the first name last name and salary of all employees who work on department number 50
 - d) Retrieve the name of manager of all departments.
 - e) Retrieve the name and address of all employees who work for sports department.
9. Discuss various types of normalization? Explain with the help of example difference between 3rd Normal form and BCNF?