



Database Management System (1100)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** questions from each unit.
5. Figures to the right indicate full marks.
6. Assume suitable data if necessary.

UNIT - I

1. a) Explain the Extended E. R features in detail. **10**
b) Explain the concept of data Independence and importance of physical data independence in DBMS. **10**
c) i) Give the comparison between relational data model and network data model. **5**
ii) Explain the various functions of DBA. **5**

UNIT - II

2. a) Explain tuple relational calculus and domain relational calculus in detail. **10**
b) Consider the following relational database and solve the following queries using relational algebra **10**
Instructor (Id, name, dept_name, salary)
Teaches (Id, course id, secid, semester, year)
Course (course id, title, dept_name, credit)
i) Find the names of instructor in Biology Dept together with the course id of all courses they taught.
ii) Find the total number of instructors who teach a course in the summer 2012.
iii) Find all the course id taught in summer 2012 but not in winter 2012.

- c) Explain the following relational algebra operations with example. **10**
 i) Natural Join.
 ii) Division.
 iii) Cartesian product
 iv) Set difference

UNIT - III

3. a) Consider the relational database in Q. 2 (b) and solve the all above queries in Q. 2 (b) in SQL. **10**
- b) Explain the following clauses in SQL with example. **10**
 i) Group by
 ii) Order by
 iii) Having
- c) Write a note on Embedded SQL. **10**

UNIT - IV

4. a) Explain functional dependency and multivalued dependency in detail. **10**
- b) State the properties of transaction and explain different states of transaction in detail. **10**
- c) Write a note on Deferred database modification and immediate database modification. **10**

UNIT - V

5. a) Explain Temporal database in detail. **10**
- b) Write a note on persistent of objects in OODBMS. **10**
- c) Explain inter object relationships in detail. **10**
