GANPAT UNIVERSITY
B. TECH. SEM - III (Computer Engineering/Information Technology)
CBCS (NEW) REGULAR EXAMINATION - NOV- DEC 2016
2CE305/2IT305: Database Management System- I

Time: 3 HRs]

[TOTAL MARKS: 60

Instructions:

1. This Question paper has two sections. Attempt each section in separate answer book.
2. Figures on right indicate full marks.
3. Be precise and to the point in answering the descriptive questions.
4. Assume suitable data if require.

SECTION-I

Q-1	[A]	Define: Partial functional dependent & Fully functional dependent and Explain same with given relational schema. Relation **PART_SUPP {Part_id, Supp_id**, Price, Supp_name, Part_name} Set of FDs {(Part_id, Supp_id) -> Price, Part_id-> Part_name, Supp_id -> Supp_name} Where (Part_id, Supp_id) is a composite key.	[5]
	[B]	State the procedure to check given attribute set can be a super key or not?	[5]

OR

Q-1	[A]	List only rules of inferences (Axioms).	[5]
	[B]	Consider relation R{A,B,C,D,E,F} and set of FDs{ AB->C, C->D ,D->E,E->F,F->A} Find that EB->CD hold on relation R or not?	[5]

Q-2	[A]	List all unary & binary relational algebra operations. Discuss any two in details with example.	[5]
	[B]	Discuss insert, update, and delete relational algebra operations.	[5]

OR

Q-2	[A]	Draw storage devices hierarchy and explain in brief.	[6]
	[B]	Discuss any two performance measures of Disks.	[4]

Q-3	[A]	Discuss 3Nf with example.	[5]
	[B]	Define procedural & declarative DML language. write SQL syntax for following 1. To drop a column from table. 2. To add not null constraint using alter command. 3. To apply any scalar function on any column. 4. To update more than one columns for selective rows in a table.	[5]

[P. T.O]

Q-4 **[A]** Discuss discriminator, identifying entity set, identifying relationship with respect to weak entity set. **[6]**

[B] Discuss the process of specialization & generalization. **[4]**

OR

Q-4 **[A]** Discuss the process of reduction of E- R schema in to Relational schema when entity set contains composite super key, composite attributes, and multi valued attributes. **[6]**

[B] Discuss multi valued dependency with example and also state the conditions for fourth normal form. **[4]**

Q-5 **[A]** Discuss different database users. **[6]**

[B] List possible disadvantages of file processing system. **[4]**

OR

Q-5 **[A]** Define: Normalization. Discuss lossless & dependency preserving decomposition of relation with example. **[6]**

[B] Define followings **[4]**
record, authorization, aggregate function, one to one relationship

Q-6 **[A]** Consider given tables, **[10]**

EMPLOYEE:{Emp_No(primary key), Ename, Jobtype, Salary, Dept_No}
DEPARTMENT: {Dept_No(primary key), Dname, Manager_Id}

Write SQL commands for followings

1. Find average salary of each jobtype.
2. Find the name of employees under manager whose manager id is 'M1' and salary is less than 5000.
3. Find the total salary of all employees under each manager.
4. Create new table EMP_DEP which contains information about only Emp_No, Ename and its respective Manager_Id.
5. List only employee name and length of each name whose Manager id is 'M2'.

-----End of Paper-----