Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: III (Computer Engineering / Information Technology)

Regular Examination Nov-Dec 2014

2CE306/2IT306: Database Management System-1

Time: 3 Hours] **[Total Marks: 70**

Instructions: 1: Figures to right side indicated full marks.
2: Each section should be written in a separate answer book.
3: Assume suitable data if required.
4: Be precise and to the point in your answer.

Section - I

Que. – 1	**[A]**	Discuss advantages of DBMS over File Processing System.	**06**
	[B]	Explain Different levels of Data Abstraction with proper figure.	**06**
		OR	
Que. – 1	**[A]**	What is key in DBMS? Explain Super key, Candidate Key and Primary key with proper example.	**06**
	[B]	Write and Explain different application of Database Systems .	**06**
Que. – 2	**[A]**	Explain foreign key constraints with suitable example. Also write features of foreign key.	**05**
	[B]	Explain natural join and outer join with proper symbols, syntax and with proper example.	**06**
		OR	
Que. – 2	**[A]**	What do you mean by DBA? Write different roles of DBA.	**05**
	[B]	Explain any four fundamental relational algebra operations with proper example.	**06**
Que. – 3	**[A]**	What is Null value? Explain how the various relational algebra operations deal with null values.	**06**
	[B]	Explain index, view and sequence with proper syntax.	**06**

Section – II

Que. – 4	**[A]**	Explain phases of database design.	**06**
	[B]	Define following: Weak Entity Set, Aggregation of relationship set	**06**

OR

Que. – 4	**[A]**	Discuss various physical storage mediums with hierarchical diagram.	**06**
	[B]	Explain RAID levels.	**06**
Que. – 5	**[A]**	What is Functional Dependency? Explain closure set of Functional Dependency.	**05**
	[B]	Explain BCNF with example.	**06**

OR

Que. – 5	**[A]**	Explain following: 2NF and 3NF with example	**05**
	[B]	Explain following: Lossless decomposition, physical characteristics of magnetic disks	**06**
Que. – 6	**[A]**	Consider the employee data of sales company. Write any **six** SQL query for the following: (underline indicates primary key attribute) **Employee**(Emp-ID, Emp-Name, Street,City, hire-date) **Works**(Emp-ID, Branch-Name, Salary) **Sales**(Order-ID, product, O-date, O-amt, Discount, Emp-ID) **Branch**(Branch-Name, City) **Manages**(Manager-Name, Emp-ID, Emp-Name) 1. Find the name of all employees who works in 'Delhi' city. 2. Find the names and cities of residence of all employees whose salary is between 15000 to 25000. 3. Find all employee in the database who do not managed by manager 'Ramesh'. 4. Find all total number of orders by each employee. 5. Find name of employee who has given maximum discount on 1-Jan-14. 6. Create unique index on "city" attribute. 7. Increment salary by 2000 of each employee whose number of sales orders are greater than 500.	**12**

END OF PAPER