Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(New) EXAMINATION - SUMMER 2016

Subject Code:2130703			Date:31/05/2016	
Subje Time Instruc	otal Marks: 70			
THIS CLU	1. A 2. N	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	MARKS	
Q.1		Short Questions.	14	
	1	Define RDBMS.		
	2	Write any one difference between traditional file processing sy and database management system.	rstem	
	3	What do you mean by instances and schemas?		
	4	What is data dictionary?		
	5 6	Define candidate key. Define NULL constraint.		
	7	Define entity set and attribute in E-R diagram.		
	8	Write a symbol for project operation in relational algebra.		
	9	Which command is used to change the name of table?		
	10	Give full form of SQL and DCL.		
	11 12	Write functionality of DESC command in SQL. State true or false: Any relation schema that satisfies BCNF satisfies 3NF.	also	
	13	What do you mean by concurrent execution of transaction?		
	14	Give name of method to check the conflict serializability.		
Q.2	(a)	Briefly explain applications of DBMS.	03	
	(b)	Discuss the role of database administrator (DBA).	04	
	(c)	Define E-R diagram. Draw an E-R diagram for Li Management System. Assume relevant entities and attributes for given system.	•	
		OR		
	(c)	Explain Database Management System (DBMS) architecture proper diagram.	with 07	
Q.3	(a)	List the relational algebra operators. Discuss any one such algorization operator with suitable example.	gebra 03	
	(b)	Discuss following terms with proper example(s). 1. Referential Integrity (Foreign Key) constraint 2. Check constraint	04	
	(c)	Enlist SQL commands for DML.	07	
		Consider following relations and write SQL queries for statements. Assume suitable constrains.	given	
		job(job-id, job-title, minimum-salary, maximum-salary)		

employee(emp-no, emp-name, emp-salary,dept-no) deposit(acc-no, cust-name, branch-name, amount, account-date) borrow(loan-no, cust-name, branch-name, amount) department (dept-no, dept-name)

- 1. Give name of depositors whose branch name starts from 'D'.
- 2. Give employee name(s) whose salary is between Rs. 20000 to 30000 and department name is Finance.
- 3. Delete borrower details whose amount is less than 25000.

		OR	
Q.3	(a)	Discuss aggregate functions with example(s).	03
	(b)	Write a note on mapping cardinality in E-R Diagram.	04
	(c)	Elaborate Normalization. Explain any three normal forms with suitable example(s).	07
Q.4	(a)	Define transaction. Explain various states of transaction with suitable diagram.	03
	(b)	Write a note on view serializability.	04
	(c)	Briefly describe immediate database modification for log based recovery.	07
		OR	
Q.4	(a)	Write differences between shared lock and exclusive lock.	03
	(b)	Explain ACID properties of transaction.	04
	(c)	Discuss various steps of query processing with proper diagram.	07
Q.5	(a)	Describe GRANT and REVOKE commands.	03
	(b)	Define cursor. Briefly describe types of cursor in PL/SQL.	04
	(c)	Write a note on stored procedure with suitable example.	07
	` ´	OR	
Q.5	(a)	State the differences between COMMIT and ROLLBACK commands.	03
	(b)	Write a note on two phase locking protocol.	04
	(c)	Define PL/SQL. Write PL/SQL block to print sum of even numbers	07
		between 1 to 20.	
