

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-III Remedial Examination March 2010****Subject code:130703****Subject Name: Data Base Management system****Date: 11 / 03 / 2010****Time: 11.00 am – 01.30 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Consider following schema and write SQL for given statements. **08**
- student(rollno, name, branch)
 - exam(rollno, subject_code, obtained_marks , paper_code)
 - papers(paper_code, paper_satter_name, university)
- (i) Display name of student who got first class in subject '130703'.
- (ii) Display name of all student with their total mark.
- (iii) Display list number of student in each university.
- (iv) Display list of student who has not given any exam.
- (b)** Explain ACID properties of Transaction with suitable example. **06**
- Q.2 (a)** Draw E-R diagram for Hospital management system and covert into set of table schema. **07**
- (b)** Describe various disadvantages of file system compare to Data base management system. **07**
- OR**
- (b)** With example explain various mapping cardinalities and total participation. **07**
- Q.3 (a)** Consider following schema and represent given statements in relation algebra form. **06**
- * Branch(branch_name,branch_city)
 - * Account(branch_name, acc_no, balance)
 - * Depositor(Customer_name, acc_no)
- (i) Find out list of customer who have account at 'abc' branch.
- (ii) Find out all customer who have account in 'Ahmedabad' city and balance is greater than 10,000.
- (iii) find out list of all branch name with their maximum balance.
- (b)** Normalize (decompose) following relation into lower to higher normal form.(From 1NF to 4 NF). **08**

PLANT	MANAGER	MACHINE	SUPPLIER_NAME	SUPPLIER_CITY
Plant-A	Ravi	Lath Boiler	Jay industry Abb appliance	Ahmedabad Surat
Plant-B	Meena	Cutter Boiler CNC	Raj machinery Daksh industry Jay industry	Vadodara Rajkot Ahmedabad

OR

- Q.3 (a)** What is canonical cover? Consider following set F of functional dependencies on schema R(A,B,C) and compute canonical cover for F. **06**
A → BC B → C A → B AB → C
- (b)** Consider wholesaler of book schema. **08**
Book(Book_id, book_title, publisher, book_price)
(i) Implement procedure which print details of books whose price is more than average price.(Use cursor).
(ii) Write a trigger such that if record is deleted from book table, insert old record in book_backup table.

- Q.4 (a)** Explain various steps involved in Query evaluation. **07**
(b) Explain conflict serializability with example. **07**

OR

- Q.4 (a)** Explain transformation of relational expression into equivalent relational expression. **07**
(b) Explain view serializability with example. **07**

- Q.5 (a)** Consider schedule S with transaction T1 and T2. T1 transfer Rs. 150 from account A to C and T2 adds Rs. 50 into account A. Prepare concurrent schedule with two phase locking protocol. **05**
(b) Explain various deadlock prevention methods. **05**
(c) Write short note on data encryption. **04**

OR

- Q.5 (a)** Explain immediate database modification log based recovery method. Also explain role of check point in log base. **07**
(b) Explain working of 2-phase commit protocol. **07**
