

Reg No.



MANIPAL INSTITUTE OF TECHNOLOGY
(Constituent Institute of Manipal University)
MANIPAL-576104



FOURTH SEMESTER B.E. (CSE) DEGREE MAKE-UP EXAMINATION –
July – 2008
DATABASE MANAGEMENT SYSTEMS (CSE-206)
(REVISED CREDIT SYSTEM)
TIME : 3 HOURS MAX.MARKS : 50

Instructions to Candidates

- Answer **any five** full questions
- Missing data can be suitably assumed

1 A. Draw an ER diagram showing the interaction of students and staff with the central library of a college.

1 B. What are the advantages of Btree representation as compared to other types of indexing. (6 + 4)

2 A. Consider the following database :
S (S#, SNAME, STATUS, CITY)
Primary key (S#)
P (P#, PNAME, COLOR, WEIGHT, CITY)
Primary key (P#)
J (J#, JNAME, CITY)
Primary key (J#)
SPJ (S#, P#, J#, QTY)
Primary key (S#, P#, J#)
Foreign key (S#) references S
Foreign key (P#) references P
Foreign key (J#) references J

Write SQL queries for the following:

- i) Get project numbers for projects supplied by at least one supplier in the same city as the project.
- ii) Get the total quantity of part P1 supplied by supplier S1
- iii) Get the part numbers for parts supplied to any project in LONDON
- iv) Get project numbers for projects supplied entirely by supplier S1.

2 B. For the above database, write SQL statements for the following operations :

- i) Change the colour of all red parts to orange
- ii) Delete all projects for which there are no shipments (6 + 4)

3 A. Define the term “functional dependence”, explain with an example

3 B. Clearly explain, how a primary key is different from a foreign key

3C. Define Boyce/Codd Normal Form (BCNF). How is it related to 3NF ?

Give a relation which is in 3NF , but not in BCNF. Justify your answer.

(3 + 2+ 5)

4 A. Clearly distinguish between security and integrity of a database.

4 B. Explain the “shadow copy” recovery concept.

4 C. “Serializability is the generally accepted criterion for the correctness for concurrency control” Why?

(3 + 3 + 4)

5 A. Explain the different techniques for improving the speed of access to blocks on disk?

5 B. Draw the precedence graph for the schedule given below and check whether it is conflict serializable or not

T1	T2
Read (A)	
	Read (A)
	Write (A)
	Read (B)
Write (A)	
Read (B)	
Write (B)	
	Write (B)

5 C. Write a note on Bitmap indices (4+3+3)

6 A. Explain the ACID properties with an example

6 B. Explain dynamic hashing technique in detail (5 + 5)
