REG.No.:	



MANIPAL INSTITUTE OF TECHNOLOGY, (A Constituent Institute of MANIPAL UNIVERSITY)



MANIPAL - 576 104, Karnataka, India.

IV SEMESTER B.E. (CSE) (Revised credit scheme) END SEMESTER EXAMINATION May- 2009 SUBJECT: DATABASE MANAGEMENT SYSTEMS(CSE-206)

TIME: 3 HOURS

16-5-2009

MAX.MARKS: 50

Note: Answer any FIVE full questions. Missing data can be assumed.

- 1A. Explain the three levels data abstraction of DBMS. Illustrate with an example. (2+2)
- 1B. What are NULL values? Why they are required? What is the result of applying arithmetic and comparison operations on NULLs?
- 1C. What is the difficulty in applying updates, insertions and deletions on Views? Under what conditions, a view is said to be updatable? (2+1)
- 2A. Consider the relational schema of a College Database:

Course(CourseID, CName, NoOfPapers, Fees)

Student(RollNo, Name, Age, City, CourseID)

Result(RollNo, CourseID, PaperNo, Marks,)

Note: PaperNo can have a value between 1 and NoOfPapers of the corresponding course Write the following queries in SQL:

- Find the number of students above age 20 in each course
- Get the details of all the courses joined by the students ii.
- Get the result(marks in different papers) of all the students who are enrolled in the same course iii. as the student with RollNo 12
- Find out the names of all the students who appeared in more than three papers of their opted course without using GROUP BY clause. (1+1+1+2)
- 2.B. Briefly explain the following terms with example.
 - i) entity
- ii) attribute
- iii)domain
- iv) relationship.

(2)

- 2.C. Discuss the following design issues in entity-relationship model:
 - i) use of entity sets v/s relationship sets
 - ii) binary v/s n-ary relationship sets
 - iii) placement of attributes.

- 3A. Consider a MAIL_ORDER database in which employees take orders for parts from customers. The data requirements are summarized as follows:
 - The mail order has employees each identified by a unique employee number, first and last name and ZIP code.
 - Each customer of the company is identified by a unique customer number, first and last name and ZIP code.
 - Each part sold by the company is identified by a unique part number, a part name, price and quantity in stock.

Each order	contains spec	irica quant		more parts. Each of	or erect o	
well as an o	expected ship	date. The a	ectual ship date	e is recorded.		
Design and	entity relation	ship diagra	m for the mail	order database.		(3)
3.B. Explain with	example:					
3.C. For the follow	ed projection	11) aggrega	ate function.	iii) outer join		(3)
Members	Mid, name, de	of a book c	lub:			
Books(Bid	l, Btitle, Bautl	esignation,	age)			
	Mid, Bid, Date		sner, Bprice)			
Write the relati			for the fellow	da .		
i. List the ti	tles of books	recerved by	ror feecers	ing:		
ii. Find IDs	of members v	vho have no	ot reserved box	ks that cost more th	non Do 500	*
iii. Find the a	authors and tit	les of book	s reserved on	27-may-2008.	iaii Ks. 500.	
iv. Find the r	names of men	bers who h	nave reserved a	all books		(1)
A i. Give the for	mal definition	of function	nal dependenc	v		(4)
ii. List all func	tional depend	encies satis	sfied by the rel	ation	y 1 5	
		THE CHILD	oned by the for	dilon		
A	В	C	D			
al	b1	c1	d1			
a1	b1	· c2	d2			
al		c2	d1		1.6	
a1		c4	d4			
			(14			
iii. Find the mi	nimal cover f					
iii. Find the mi		or the giver				(1+1+2)
B i Define 3NF	3->A, D->A, A and 4NF	or the given AB->D	n set of FDs	me to give a lossles	s BCNF decom	(1+1+2) (2)
B i. Define 3NF ii: State BCNF of R and fund R = (A, B, C,	3->A, D->A, A and 4NF decomposition of the dependence of the depen	or the giver AB->D n algorithm	n set of FDs	me to give a lossles	s BCNF decom	(2) position
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