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Seat No.:	Enrolment No.
Scat No	Emoment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

M.C.A.- SEMESTER – II • EXAMINATION – WINTER 2012 Subject code: 2620003 Data: 27-12-2012

Subje	ct Na	me: Database Management System (DMBS)	
		0 pm – 05:00 pm Total Marks: 70	0
Instru			
		ake suitable assumptions wherever necessary.	
		gures to the right indicate full marks.	
•	J. 11	gures to the right indicate run muris.	
Q.1	(a)	Define the following in terms.	07
		1. Mapping cardinalities 2. Additive join	
		3. Super key 4. Atomicity	
		5. Redundancy 6. Metadata	
	(7.)	7. Functional Dependency	^-
0.4	` ′	Discuss three level architecture of DBMS.	07
Q.2	(a)	Why do we require normalization? Discuss 1NF, 2NF and 3NF showing Functional dependency with suitable example.	07
	(b)	1	07
		1. Generalization	
		2. Specialization	
		3. Aggregation	
		OR	
	(b)	What is ERD? Explain its Notations in detail.	07
•	(a)	± ±	07
	(b)	1	
		1. Discuss concept of BCNF giving example.	04
		2. Discuss the concept of canonical cover.	03
0.1	(.)	OR	07
Q.3	(a)	Find the closer set of F+ from the given relational R=(A,B,C,G,H,I) and the set of FD's are	07
		F={A->B, A->C,	
		CG->H,	
		CG->I,	
		B->H}	
	(b)	,	
()	(,,,	State the Difference between DBMS and RDBMS	04
		2. List the Seven Axioms of Armstrong.	03
Q.4	(a)	Explain the Structure of relational Database Model.	07
	(b)	Explain the Fundamentals of Relational Algebra Operations.	07
		OR	
Q.4	(a)	Explain the concept of Serializability and Recoverability.	07
Q.4	(b)	Discuss the features of good relational Design.	
Q.5	(a)	<u>.</u>	07
	(b)	Define Deadlock. Discuss deadlock prevention and detection method.	07
		OR	^ -
Q.5	(a)	Define Lock and Discuss the Types of Locks.	07
((b)	What is transaction log? Discuss the concept of checkpoint showing	07

transaction log.