3rd Semester Back Examination 2017-18
DATABASE MANAGEMENT SYSTEM
BRANCH: MECH
Time: 3 Hours
Max Marks: 70
Q.CODE: B1221
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1		**Answer the following questions:**	**(2 x 10)**
	a)	Define Atomicity in transaction management.	
	b)	What is the function of DBA?	
	c)	What do you mean by weak entity set?	
	d)	What are the ACID properties?	
	e)	What is normalization?	
	f)	Write a note on functional dependacies.	
	g)	Distinguish between sparse index and dense index.	
	h)	List the two commonly used Concurrency Controlled techniques.	
	i)	What are the advantage and disadvantage of indexed sequential file?	
	j)	Define database tuning.	
Q2	**a)**	Discuss the various disadvantages of file systems and explain how it can be overcome by database system .	**(5)**
	b)	Explain the three different groups of data models with examples.	**(5)**
Q3	**a)**	With a neat diagram, explain the structures of DBMS.	**(5)**
	b)	What do you mean by data abstraction? Mention its types and compare each property with other.	**(5)**
Q4	**a)**	Construct an E-R diagram for an employee payroll system.	**(5)**
	b)	What are the relational algebra operations supported in SQL ? write down the SQL statement for each operation.	**(5)**
Q5	**a)**	Explain the principles of Loss less join decomposition.	**(5)**
	b)	Explain 1NF,2NF,3NF and BCNF suitable example.	**(5)**
Q6	**a)**	Explain the concepts of serializability.	**(5)**
	b)	Explain Two-phase locking protocol.	**(5)**
Q7		Explain the various indexing schemes used in database environment.	**(10)**
Q8		**Write short answer on any TWO:**	**(5 x 2)**
	a)	Serializability	
	b)	Deadlock prevention scheme	
	c)	Hashing	
	d)	Concurrency problems	