Q.P. Code: 541600

(3 Hours) **Total Marks: 80**

N.B.:	(1) Question No.1 is compulsory.	
	(2) Solve any three questions out of the remaining questions.	, ^
	(3) Make suitable assumptions if needed.	0/6
		5
1.	(a) Explain BCNF with example.	5 .
	(b) Write short note on Deadlocks.	5
	(c) Explain Total and Partial Participation.	5
	 (2) Solve any three questions out of the remaining questions. (3) Make suitable assumptions if needed. (a) Explain BCNF with example. (b) Write short note on Deadlocks. (c) Explain Total and Partial Participation. (d) Discuss the role of Database Administrator. (a) Discuss steps in query processing. Also describe cost based query optimization. (b) Draw an ER Diagram and convert it into relational model for a Company, 	5
2	(2) Discuss stops in quary processing. Also describe seet based quary of initiation	10
۷.	(a) Discuss steps in query processing. Also describe cost based query optimization.(b) Draw an ER Diagram and convert it into relational model for a Company,	10
		10
	which has several Employees working on different types of Projects. Several	
	Employees are working for one Department, every Department has a Manager. Several Employees are supervised by one Employee.	
3.	(a) Explain types of integrity constraints with example.	10
٥.	(b) Discuss Data Definition and Manipulation Commands in SQL.	10
	(5) 2 section 2 and 2 criminon and 1/2 amparation 4 criminal in 5 Q L.	10
4.	(a) Describe the overall architecture of DBMS with suitable diagram.	10.
7.	(b) Explain Security and Authorization in DBMS.	10 10
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5.	(a) Explain the following Relational Algebra Operations with example:	10
	i. Natural Join iii. Generalized Projection	
	ii. Set Intersection iv. Division Operator	
	(b) Explain Assertions and Thisgons in detail	10
	(b) Explain Assertions and Triggers in detail.	10
6.	Write Short notes on	20
	(a) ACID properties	
,	(b) Shadow Paging	
	(c) Specialization and Generalization	
	(d) Aggregate Functions in SQL	
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