Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –IV Examination Dec. - 2011

Subject code: 740101 **Date: 07/12/2011**

Subject Name: Distributed Database System

Time: 10.30 am – 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use Standard Conventions for symbols be used in examples in text**

Q.1	Attempt any two	
(i)	Explain the dependency structures with examples and show its significance in design of nominal form	7
(ii)	Distinguish between shared memory multiprocessor and shared disk multiprocessor.	7
(iii)	Discuss autonomy, distribution, and heterogeneity for distributed Database types	7
Q.2 (A)	Explain the layers of transparency.	5
(B)	What is Derived Fragmentation? For a Distributed application having multiple location (city), for multiple employees where they can be multiple project, Show Derived Horizontal fragmentation.	9
	OR	
(B)	Design and Develop vertical Fragmentation algorithm for clustering using BEA's method.	9
Q.3	Attempt any TWO	14
(i)	Explain allocation problem taking into account fragments networks and running application.	
(ii)	Explain in brief partitioning algorithm and show with adding shift operation how complexity of partitioning algorithm increases by a factor of n.	
(iii)	Discuss various types of Database Normalization and how they are different in Distributed Database , discus for any one of aspect	
Q.4 (A)	Explain Generic layering scheme for Distributed Query Processing.	7
(B)	Explain Distributed Query optimization algorithm.	7
	OR	
Q.4(A)	Explain Distributed INGERS algorithm.	7
(B)	Explain in detail Join ordering in fragment queries.	7
Q.5	Attempt any FOUR.	14
(i)	Explain Parallel Hash Join.	
(ii)	Explain the properties of Transaction with example.	
(iii)	What is Object clustering? Give with example.	
(iv)	Explain Integrated Global Conceptual schema.	
(v)	Explain NUMA Architecture.	

****