

**GUJARAT TECHNOLOGICAL UNIVERSITY****M.C.A.- SEMESTER – V • EXAMINATION – WINTER 2012****Subject code: 650004****Date: 28-12-2012****Subject Name: Advanced Database Management Systems (ADBMS)****Time: 10:30 am – 1:00 pm****Total Marks: 70****Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

- Q.1** (a) Discuss Component modules of DBMS and its interactions with diagram. **07**  
 (b) Attempt the following **07**
1. Give reasons why most database are stored permanently on magnetic disk storage.
  2. Give functions of various database system utilities.

- Q.2** (a) Discuss four main control measures used to provide Security in Databases. **07**  
 (b) Discuss various issues related to security and threats to Database. **07**

**OR**

- (b) What are the goals of Database Tuning? Discuss types of statistics required during tuning; also discuss types of problems faced during Database Tuning. **07**
- Q.3** (a) Discuss Deferred update and Immediate update recovery techniques. **07**

- (b) What is the main difference between a primary index and a clustering index? **07**  
 How does insertion of a record in a block affect a primary or clustering index-considering the case of with and without overflow?

**OR**

- Q.3** (a) Attempt the following. **07**
1. How Distributed Database is different from Parallel Database?
  2. What is meant by Data Allocation in Distributed Database design?
- (b) What is Partitioned Hashing? How does it work? What are its limitations? **07**

- Q.4** (a) What is Spatial Database? Explain different types of Spatial queries. **07**  
 (b) Discuss the merits and demerits of proving secondary indexes and primary indexes. **07**

**OR**

- Q.4** (a) What is Prolog and Datalog? Discuss its similarity and its differences with example. **07**  
 (b) What is Temporal Database? Discuss benefits of Temporal Database giving example. **07**

- Q.5** (a) Discuss with example, how type constructor, inheritance and overloading function written in SQL for Object Relational database system. **07**  
 (b) What is Multimedia Database? Discuss different types of Multimedia data available in current systems. **07**

**OR**

- Q.5** (a) Draw and briefly explain Mobile Computing architecture. **07**  
 (b) Attempt the following: **07**
1. What is function of Service name and Listener in oracle?
  2. Discuss in brief Oracle Net Configuration.

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