**Reg. No. \_\_\_\_\_\_\_\_**

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examination - June 2011**

**Subject Title: DATA MINING TECHNIQUES Time: 3 hours**

**Subject Code: CA342 Maximum Marks: 100**

**Answer ALL questions (5 x 20 = 100 Marks)**

1. **Compulsory:**

a. How to design and construct a data warehouse? Describe the three-tier data warehouse architecture with a neat sketch. (10)

b. List and explain the data mining functionalities. (10)

2. a. Write short notes on the following data reduction techniques.

i) Data cube aggregation. ii) Data compression. (3+7)

b. Explain the major types of concept hierarchies with an example. (10)

(OR)

3. a. What is noise? Explain the data smoothing techniques in detail. (10)

b. Explain Numerosity reduction technique in detail. (10)

4. a. Explain how frequent item set is generated with the help of Apriori algorithm with an example. (15)

b. Explain how association rules are generated from the frequent item set. (5)

(OR)

5. a. Write short notes on Iceberg Queries. (10)

b. How will you improve the efficiency of the Apriori algorithm? (10)

6. Briefly outline the techniques of Naïve Bayesian Classifier.

(OR)

7. a. What is a decision tree? Explain the basic algorithm used for decision tree induction. (10)

b. How does tree pruning work? How are the classification rules derived out of decision tree? (10)

8. What is clustering? Explain partition methods of clustering in detail.

(OR)

9. a. Explain the major classification of the clustering methods. (10)

b. Explain Agglomerative and divisive hierarchical clustering in detail. (10)