(Effective from the academic year 2018 - 2019) SEMESTER - VI Course Code Number of Contact Hours/Week 3:0:0 SEE Marks 60 Total Number of Contact Hours 40 Exam Hours 03 Course Learning Objectives: This course (18CS641) will enable students to: • Define multi-dimensional data models. • Explain rules related to association, classification and clustering analysis. • Compare and contrast between different classification and clustering algorithms Module 1 Contact Murchousing & modeling: Basic Concepts: Data Warehousing: A multitier and virtual warehouse, Extraction, Transformation and loading, Data Cube: A multidimensional data model, Stars, Snowflakes and Fact constellations: Schemas for multidimensional data models, Stars, Snowflakes and Fact constellations: Schemas for multidimensional Data models, Stars, Snowflakes and Fact constellations: Schemas for multidimensional Data computation, Typical OLAP Operations Textbook 2: Ch.4.1,4.2 RBT: L1, L2, L3 Module 2 Data warehouse implementation& Data mining: Efficient Data Cube computation: An overview, Indexing OLAP Data: Bitmap index and join index, Efficient processing of OLAP Queries, OLAP server Architecture ROLAP versus MOLAP Versus MOLAP. Introduction: Data Preprocessing, Measures of Similarity and Dissimilarity. Fextbook 2: Ch.4.1, 12, 1.4, 2.1 to 2.4 RBT: L1, L2, L3 Module 3 Association Analysis: Association Analysis: Problem Definition, Frequent Item set, Section of Ch. 1.1, 1.1, 2.1, 4, 2.1 to 2.4 RBT: L1, L2, L3 Module 4 Lassification: Decision Trees Induction, Method for Comparing Classifiers, Rule Based 108 Association Analysis: Overview, K-Means, Agglomerative Hierarchical Clustering, Sealable Clustering, Agglorithms. Course Outcomes: The student will be able to:	(Effective	from the academic	WAREHOUSING	The state of the s
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- Identify data mining problems and implement the data warehouse
- Write association rules for a given data pattern.
- Choose between classification and clustering solution.

Question Paper Pattern:

- The question paper will have ten questions.
- Each full Question consisting of 20 marks
- There will be 2 full questions (with a maximum of four sub questions) from each module.
- Each full question will have sub questions covering all the topics under a module.
- The students will have to answer 5 full questions, selecting one full question from each module.

Textbooks:

- 1. Pang-Ning Tan, Michael Steinbach, Vipin Kumar: Introduction to Data Mining, Pearson, First impression,2014.
- 2. Jiawei Han, Micheline Kamber, Jian Pei: Data Mining -Concepts and Techniques, 3rd Edition, Morgan Kaufmann Publisher, 2012.

Reference Books:

- Sam Anahory, Dennis Murray: Data Warehousing in the Real World, Pearson, Tenth Impression, 2012.
- 2. Michael.J.Berry, Gordon.S.Linoff: Mastering Data Mining, Wiley Edition, second edition, 2012.

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