



C. U. Shah University, Wadhwan City
Faculty of Computer Science
Name of Program: Bachelor of Computer Application
(BCA)
Semester : VI
W.e.f. June-2015
Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
			Th	Tu	Pr	Total		Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni.	
								Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
3	4CS06BDD1	Data Mining and Data Warehousing	4	-	2	6	5	30	1.5	70	3	10	-	40	150

Objectives: Students will understand the data mining and data warehousing architecture, data models, how to work with WEKA environment.

Pre-requisites: Students should be familiar with database management system.

Course outline:

Ch. No.	Chapter Name	Topics	Lect. Hours
1	Introduction of Data Warehouse	Operational and informational systems, OLTP and DSS systems Characteristics of Data Warehouse, Data Warehouse software and hardware, architecture, Basic steps to develop data warehouse architecture, Architectural components of data warehouse, Data warehouse system architecture (Two-Tiered and Three-Tiered)	6
2	Data Marts	Data Mart structure Usage of Data Mart Data warehouse and Data Mart	3
3	Online Analytical Transaction Processing	OLTP and OLAP systems, Types of OLAP (MOLAP, ROLAP and HOLAP) with advantages and disadvantages	3
4	ETL	Extraction of Data, Transformation of Data, Loading of Data, Comparison and contradiction of various ETL tools, Various ETL tools	5
5	Data Mining	Foundation of Data Mining, Data Mining process, Data Understanding, Data Preparation, Creating database for data mining, Exploring database, creating for data mining model building a data mining model, evaluating a data mining model deployment of data mining model	6
6	Data Mining techniques	Statistics, Point Estimation, Bayes theorem, Hypothesis testing, Correlation and regression, Machine Learning, Decision Trees Neural Networks	10

7	Data Mining Algorithms (Modeling and Development)	Cross-over techniques mutation Function Fitness Function Association Rules Apriori Algorithm Sampling Algorithm Partitioning algorithm Clustering Hierarchical algorithm. Agglomerative algorithm, Divisive clustering	10
8	Practical study in WEKA Environment	implementation of data set into WEKA Rules generated using charts Analysis of data using WEKA. Comparison of various algorithms	3
9	Case Study	Theoretical study, practically development and implementation of Data mining models (case studies) in following areas: Insurance, Financial services Healthcare and medicine, Education, Telecommunications, Retail Marketing, Government	9
		Total	55

Teaching Methodology:

Revision, Paper Solving, Seminar, Expert Talk, MCQ Quiz, Viva Test, Programming Test

Learning Outcomes:

This course will introduce various data mining tools, WEKA environment.

Books Recommended:

1. Data mining Explained A manager's guide to customer centric business intelligence by Rhonda Delmater, Monte Hancock, Digital press
2. Data mining by pieter Adriaans, Dolf Zantinge

Reference Books:

- 1, Data warehousing in the real world A practical guide for business DSS by Sam Anahory, Dennis Murray Bret Williams Bret Williams