



Sub Committee for Curriculum Development

Course Name: Foundation of Data Warehousing and Data Mining

Course Code: T3237

(UG/PG): UG

Number of Credits: 4

Level: 3

Learning Objective(s): The data warehousing part of module aims to give students a good overview of the ideas and techniques which are behind recent development in the data warehousing and online analytical processing (OLAP) fields, in terms of data models, query language, conceptual design methodologies and storage techniques. Data mining part of the model aims to motivate, define and characterize data mining process, Algorithms, Analysis; to motivate, define and characterize data mining applications.

After completion of this module the students will be able to:

Distinguish a data warehouse from an operational database system and appreciate the need of developing data warehouse for large operations

Describe the problems and processes involved in development of data warehouse

Explain the process of data mining and its importance

Understand different data mining techniques.

Pedagogy:

Lectures

Class work discussion

Case studies

Presentations

Pre-learning:

RDBMS

Course Outline:

Sr. No	Topics	Hours
1	Data Warehousing: Introduction and Background, What is Data Warehousing? Need for data warehousing, Role of DW, What DW can do? DW characteristics, Data Warehouse Architecture and Components	8

2	Data Warehouse Modelling: Dimension Modeling, Data Warehouse Schemas, Cube Construction and Computation and Data Generalization, Data Marts ,Dimension Model Creation Case Studies	8
3	Difference between OLTP and OLAP technology Materialized Views Constructions and Maintenance	7
4	Data Warehouse Indexes and their Performance	6
5	Data Mining : What is data mining? KDD vs data mining, information extraction, characteristics Issues and challenges in DM	5
6	Classification : What is classification?, Different classification methods Prediction, accuracy and error measures evaluating accuracy of a classifier , model selection	10
7	Clustering and association : Introduction, clustering algorithm, Outlier analysis,	8
8	Introduction to DM tool	4
9	Application of DW and DM	3
	Total	60

Books Recommended:

1. Data Warehousing by BPB publications
2. DATA WAREHOUSING, By SINHA,AMITESH
3. DATA WAREHOUSINGDESIGN AND DEVELOPMENT PERSPECTIVES, By KRISHNA,S.JAYA
4. DATA MINING: INTRODUCTORY AND ADVANCED TOPICS, By DUNHAM, MARGARET H.
5. DATA MINING: METHODS AND TECHNIQUE, By ALI ,ABM.SHAWKA
6. DATA MINING:CONCEPTS AND TECHNIQUES, By HAN,JIawei / KAMBER,MICHELINE
7. JOURNAL OF COMPUTER SCIENCE, G.G.BOOKS & PERIODICALS

Suggested Evaluation Methods:

Assignments
Class Test
Mid Term Test
End Term Test

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered
1.	M.Sc.	SICSR (Data Mining and Algorithms)

Name of Member	Tejaswini Apte	Priti Kulkarni			
Designation	Asst. Professor	Asst. Professor			
Org. / Inst.	SICSR	SICSR			
Signature					

Name of the Expert:

Signature:

Date: