	Course Code	
2	Course Title	Data Warehouse & Multidimensional Modeling
3	Credits	
4	Contact Hours	
5	Course Objective	The course enables students to 1.Understand the fundamentals of Data Warehousing 2. Learn modelling of datawarehousing 3. Understand the concepts of Multi-Dimensional Modeling and learn the Methodology 4. Learn Non-Temporal Design of R-OLAP 5. Learn Non-Temporal Design of M-OLAP.
6	Course Outcomes	The students will be able to Have understood the fundamental conceppts of data warehousing • Develop a model for datawarehousing • Do multidimensional modelling of datawarehousing. • Design R-OLAP • Design M-OLAP
7	**Prerequisite**	
8		
8.01	Unit A	Introduction to Data Warehousing
8.02	Unit A Topic 1	Data Warehouse Architectures
8.03	Unit A Topic 2	, A perspective on decision support application
8.04	Unit A Topic 3	
8.05	Unit B	Data Warehousing and Modeling
8.06	Unit B Topic 1	An Introduction to Data Warehouse Modeling,

8.07	Unit B Topic 2	Differentiating the Warehousing model from the OLTP model,
8.08	Unit B Topic 3	Warehouse Modeling Approaches, OLAP – OnLine Analytical Processing, Basic OLAP Operations.
8.09	Unit C	Multi-Dimensional Modeling – Methodology
8.10	Unit C Topic 1	Requirement Analysis, Requirements modeling,
8.11	Unit C Topic 2	Terminologies in a Multi-dimension Model
8.12	Unit C Topic 3	, Multi-Dimensional Model Structures, Solution Validation Techniques, Detailed Dimension Modeling.
8.13	Unit D	Non-Temporal Design - R-OLAP
8.14	Unit D Topic 1	R-OLAP and its design techniques, Design techniques of an R-OLAP System,
8.15	Unit D Topic 2	Dimension-Oriented Design techniques, Fact-oriented Design Techniques, Utilize Cubing Services to improve R-OLAP and M-OLAP performance,
8.16	Unit D Topic 3	Cubing Services performance and scalability, Scalability, Cubing Services security, Role-based security in Cubing Services.
8.17	Unit E	Non-Temporal Design - M-OLAP
8.18	Unit E Topic 1	IBM Cognos Architecture, Sparse and Dense Dimensions –
8.18	Unit E Topic 2	with Hyperion Essbase, MOLAP characteristics
8.20	Unit E Topic 3	, Online Data Analysis MOLAP and ROLAP
9	**Reading Content**	
9.1	Text book*	1. Data Warehouse & Multidimensional Modeling (IBM ICE Publication)
9.2	other references	1. Data Warehousing and Mining :Concepts, Methodologies, Toolls and Applications (Vol I to VI) by John Wang • The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling, 3rd Edition by Ralph Kimball and Margy Ross • Open Source Data Warehousing and Business Intelligence by Lakshman Bulusu Auerach Pulications • Data Min ing and Data Warehousing by Bharat Bhushan Agarwal and Sumit Prakash ,Tayal Laxmi Publications.