Course Code	18CSE487T	Course Name	DATA WAREHOUSING AND ITS APPLICATIONS	Course Category	E	Professional Elective	L	T	P	C
							3	0	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Science and Engineering	Data Book / Codes/Standards		Nil	

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*Understand the basic idea of data warehouse*
CLR-2 :	*To learn step by step approach to design a data warehouse*
CLR-3 :	*Understand ETL Process*
CLR-4 :	*To learn building process of data warehouse and implementation of data mart*
CLR-5 :	*Identify the Data mining concepts with various domains*
CLR-6 :	*To learn case studies to bring out practical aspects of data warehouse*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning			Program Learning Outcomes (PLO)														
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO – 3
CLO-1 :	*Acquire the knowledge, Architecture and schema and OLAP Tool concepts.*	*2*	*80*	*85*	*H*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLO-2 :	*Acquire knowledge to design a data warehouse.*	*2*	*75*	*80*	*H*		-	-	-	-	-	-	-	-	-	-	-	-	-
CLO-3 :	*Implement ETL Process in various data warehouse applications.*	*2*	*85*	*80*	*H*		-	-	-	-	-	-	-	-	-	-	-	-	-
CLO-4 :	*Acquire knowledge to implement a data warehouse.*	*2*	*80*	*75*	*H*		-		-	-	-	-	-	-	-	-	-	-	-
CLO-5 :	*Implement the various concepts and applications of data mining rules and technology.*	*2*	*75*	*85*	*H*	-	-	*H*	-	-	-	-	-	-	-	-	-	-	-
CLO-6 :	*To Implement the data warehouse concepts in various organizations.*	*2*	*80*	*85*	*H*	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Duration (hour)		9	9	9	9	9
S-1	SLO-1	*Introduction to dataware housing*	*Data Warehouse Schema- Introduction*	*Building a data warehouse - Introduction*	*DATA MINING-introduction – Data – Types of Data – Data Mining Functionalities*	*Data Warehouse in Tamil Nadu government*
	SLO-2	*Introduction to data ware housing*	*Dimensional Modeling*	*Critical success factor*	*Integrating Data Mining with Data Warehouse*	*Data warehouse for ministry of commerce*
S-2	SLO-1	*Data warehousing Components*	*The Star Schema*	*Requirement Analysis*	*Data Mining Task Primitives*	*Data warehouse for the government of Andhra Pradesh*
	SLO-2	*Need for Data warehousing*	*The Snowflake Schema*	*Planning for the data warehouse*	*Data Preprocessing*	*Data warehouse for the government of Andhra Pradesh*
S-3	SLO-1	*Benefits and application of data warehouse*	*Aggregate Tables*	*Data warehouse design stage*	*Association rule mining and classification*	*Data warehouse in Hewlett Packard*
	SLO-2	*Data Warehouse Architecture Goals*	*DBMS Schemas for Decision Support*	*Building and implementing data marts*	*Frequent pattern Mining*	*Data warehouse in Hewlett Packard*
S-4	SLO-1	*Data Warehouse Architecture and Characteristics*	*Data Extraction*	*Building data warehouse*	*Apriori algorithm*	*Data warehouse in Levi Strauss*
	SLO-2	*Data Warehouse Architecture and Characteristics*	*Data transformation: Basic tasks*	*Backup and Recovery*	*Frequent pattern Mining without candidate generation*	*Data warehouse in Levi Strauss*
S-5	SLO-1	*Data Mart*	*Major transformation types*	*Establish the data recovery quality framework*	*Mining Multilevel Association Rules*	*Data warehouse in World Bank*
	SLO-2	*Data Mart*	*OLAP definition,*	*Operating the warehouse*	*Mining Multidimensional Association Rule, Correlation Analysis Rule*	*Data warehouse in World Bank*
S-6	SLO-1	*Classification of data mart, Implementation*	*Dimensional Analysis*	*Recipe for a successful data warehouse*	*Classification: Decision Tree*	*HARBOR-A highly available data warehouse*
	SLO-2	*Classification of data mart, Implementation*	*Hypercube*	*Data warehouse pitfalls*	*Bayesian Classification-Naïve Bayes Classification*	*HARBOR-A highly available data warehouse*
S-7	SLO-1	*Gathering the business requirement*	*OLAP operations*	*Meta Data – Introduction*	*SVM Linear and Non linear data*	*A Typical Business Data Warehouse for a trading company*

	SLO-2	Planning and project management-Project principles	Drill down	Meta Data – Data Management	Text Mining Temporal Data Mining and Spatial Data mining	A Typical Business Data Warehouse for a trading company
S-8	SLO-1	Data ware house readiness assessment, project team	Roll up	Meta Data – Query Generation	Cluster Analysis-Introduction	Customer Data warehouse of world's first and largest online bank in united kingdom
	SLO-2	Selecting the operating system	Slice	Meta Data – Query Generation	K-means– Partitioning Methods	Customer Data warehouse of world's first and largest online bank in united kingdom
S-9	SLO-1	Selecting the database software	OLAP models	Meta Data and Tools	Hierarchical Methods	A German supermarket Edeka's Data warehouse
	SLO-2	Selecting the tools	MOLAP	Meta Data and Tools	Data Mining Applications	A German supermarket Edeka's Data warehouse

Learning Resources	1. *PaulrajPonniah,—DataWarehousing:FundamentalsforITProfessionals,WileyIndia.,2001.* 2. *Reema Theraja "Data Warehousing" by Oxford UniversityPress-2011.* 3. *DataMiningandDataWarehousingbyMs.KhushbooSaxena,Mr.Sandeepsaxena,Dr.AkashSaxenafirst edition 2015,BPBpublication,India*	4. *Prabhu CSR ,Data Warehousing Concepts, Technique, Product and application, PHI Learning private Ltd, Third Edition,2013.* 5. *SamAnahory,DennisMurray,DataWarehousingintheRealWorld,Pearsonpublication-2009*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50%								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (15%)		CLA – 3 (15%)		CLA – 4 (10%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*40 %*	-	*30 %*	-	*30 %*	-	*30 %*	-	*30%*	-
	Understand										
Level 2	Apply	*40 %*	-	*40 %*	-	*40 %*	-	*40 %*	-	*40%*	-
	Analyze										
Level 3	Evaluate	*20 %*	-	*30 %*	-	*30 %*	-	*30 %*	-	*30%*	-
	Create										
	Total	100 %		100 %		100 %		100 %		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
K Selvanayagam, System Analyst, project Lead, Preludesys, Siruseri, Kancheepuram Dist.	*V.Masillamani, Asst Prof,IIITDM, Kancheepuram ,chennai*	*1.A.M.J Muthu Kumaran*
		2. S.A Saranya