

Course Code	PCA20G02T	Course Name	DATA WAREHOUSE AND DATA MINING	Course Category	G	Generic Elective Course	L	T	P	C
							3	0	0	3

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

Course Learning Rationale (CLR):	The purpose of learning this course is to,	Learning	Program Learning Outcomes (PLO)
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CLR-1 :	Gain knowledge about Data mining and Knowledge Discovery Process	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-2 :	Practice the Data mining Tools to apply Data mining algorithms																		
CLR-3 :	Understand and Apply Association rule mining techniques Understand and Apply various Classification algorithms																		
CLR-4 :	Gain knowledge on the concepts of Cluster and Outlier Analysis																		
CLR-5 :	Gain knowledge about Data Warehouse manager, Query manager and DW Schema																		
CLR-6 :	Understand the partitioning and backup technologies																		

Course Learning Outcomes (CLO):	To facilitate access to funding for long-term investment needs	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
CLO-1 :	Understand the Data mining concepts and KDD process	3	80	70	L	H	H	H	-	H	H	L	H	L	H	M	H	H	H
CLO-2 :	Understand and Apply Association rule mining and classification techniques in real world scenario	3	85	75	M	H	H	L	L	H	M	L	L	L	-	L	H	L	H
CLO-3 :	Gain knowledge about Cluster & Outlier Analysis	3	75	70	M	L	H	L	M	H	H	M	M	L	L	H	L	L	H
CLO-4 :	Understand the importance of applying Data mining concepts in different domains	3	85	80	M	M	H	M	M	H	H	M	M	L	L	M	-	M	H
CLO-5 :	Gain knowledge on Data warehouse and different types of Schema concepts	3	75	70	H	M	H	M	M	H	H	L	L	L	M	M	-	H	L
CLO-6 :	Understand the partitioning and backup technologies	3	85	80	L	H	H	H	-	M	H	H	H	L	H	L	M	H	H

Duration (hour)		9	9	9	9	9
S1	SLO1	Why Data mining? What is Data mining?	Visualization techniques	Introduction to data warehouse architecture	Data warehouse partitioning and needs	Introduction of data marts
S2	SLO1	Kinds of data, information and knowledge	Measures Likelihood & distance	Process architecture: Load manager	Horizontal partitioning	Estimation of design cost
S3	SLO1	Data mining tools and applications	Neural Networks, Decision tree technique	Data warehouse manager, Query manager	Vertical partitioning Comparison of partitioning	Meta data
	SLO2			Quiz exam	Explain partitioning using ppt	



		<i>Explain data, information and Knowledge through real time examples using ppt</i>	<i>Constructing Decision tree for real time applications</i>			<i>Explanation of Data mart and meta data by role play</i>
<b>S4</b>	<b>SLO1</b>	<i>Knowledge Discovery in Database</i>	<i>ID3 algorithm</i>	<i>Data warehouse Objects</i>	<i>Hardware partitioning</i>	<i>Backup</i>
<b>S5</b>	<b>SLO1</b>	<i>Data mining architecture and Data mining operations</i>	<i>Genetic algorithm</i>	<i>Fact table, Dimension table</i>	<i>Software partitioning</i>	<i>Types of Backup</i>
<b>S6</b>	<b>SLO1</b>	<i>Issues in Data mining</i>	<i>Crossover, mutation techniques</i>	<i>Data warehouse users</i>	<i>Types of Software partitioning</i>	<i>Hot and Cold backup, Sure west online backup</i>
<b>S7</b>	<b>SLO1</b>	<i>Demonstration on data mining algorithms</i>	<i>Demonstration of Neural Networks Decision tree and genetic algorithms</i>	<i>Compare and explain OLTP and OLAP</i>	<i>Demonstration of partitioning and its types</i>	<i>Backup the data warehouse</i>
<b>S8</b>	<b>SLO1</b>	<i>Anatomy of data mining</i>	<i>Clustering, K-Means algorithm</i>	<i>Data warehouse schema, star schema</i>	<i>Design fact tables</i>	<i>Disaster recovery procedure and Various recovery models</i>
<b>S9</b>	<b>SLO1</b>	<i>Learning and types</i>	<i>Association Rule Mining and Apriori algorithm</i>	<i>Snowflake schema and Fact constellation schema</i>	<i>Design summary table</i>	<i>Testing and types</i>

Learning Resources	1. Prabhu S, Venkatesan N (2006), Data Mining & Warehousing – New Age International – First Edition, New Delhi 2. Sam Anahory, Dennis Murray (2004), Data warehousing in real world – Pearson Education, New Delhi	1. Pieter Adriaans, Dolf Zantinge (2005), Data Mining – Pearson education, New Delhi. 2. Alex Berson, Stephen J Smith (2004), Data Warehousing, Data mining & OLAP – Tata McGraw Hill Publications, New Delhi.
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Learning Assessment											
Level	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		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.,

<b>Course Designers</b>		
<b>Experts from Industry</b>	<b>Experts from Higher Technical Institutions</b>	<b>Internal Experts</b>
Mr.G.Muruganandam, Group Project Manager, HCL Technologies, Chennai	Dr.S.Gopinathan, Professor, University of Madras, Chennai	Dr. Agusthiyar Ramu SRMIST
Mr.M. Hemachandar, Tech Lead, Wipro Limited, Chennai		