TEACHING PLAN

Course Code	Course Title	Semester & Sec.	Branch	Contact Periods Per Week	Academic Year	Date of commencement of Semester
23CS5T01	DWDM	V-A & B	CSE	5	2026-2027	22-06-26

COURSE OUTCOMES

1	Understand basic concepts of data warehousing, OLAP, and data mining. (K2)
2	Apply preprocessing techniques to raw data. (K3)
3	Perform classification using supervised learning models. (K3)
4	Analyze association rules and frequent pattern mining techniques. (K4)
5	Apply clustering algorithms and evaluate their effectiveness. (K5)

UNIT	Out Comes/ Bloom's Level	Topic S No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	C01: Understand concepts of data warehousing and OLAP (K2)	1.01	Basic concepts of data warehousing	1,2	1	Chalk and Talk, PPT & Video
		1.02	Data Warehouse Modeling: Dat Cube	2, A, B	1	
		1.03	Data Warehouse Modeling: Data Cube and OLAP	1, 2, C	1	
		1.04	OLAP vs OLTP	1, 2, A	1	
		1.05	Data Warehouse Design,	1, A, B	1	
		1.06	Data warehouse Usage	1, 2, C	1	
		1.07	Data Warehouse Implementation	2, A, B	1	
		1.08	Cloud Data Warehouse	1, 2, C	1	
		1.09	Data mining and Pattern mining	1, 2, A	1	
		1.10	Pattern mining technologies	1, A, B	1	
		1.11	Applications & major issues	1,2, C.	1	
		1.12	Data objects & attribute types	2, A, B	1	
		1.13	Statistical descriptions of data	1, 2, C	1	
		1.14	Data visualization	2, C.	1	
		1.15	Measuring similarity & dissimilarity		1	
				Total	**15**	
II	CO2: Apply preprocessing methods to raw data. (K3)	2.01	Overview of preprocessing	1,2	1	Chalk and Talk, PPT & Video
		2.02	Data cleaning	2, A, B	1	
		2.03	Data integration	1, 2, C	1	
		2.04	Data reduction	1, 2, A	1	
		2.05	Transformation techniques	1, A, B	1	
		2.06	Discretization methods	1, 2, C	1	
		2.07	Case studies on preprocessing	2, A, B	1	
		2.08	Practical examples (GB & PC)	1, 2, C	1	
		2.09	Advanced preprocessing issues	1, 2, A	1	
		2.10	Class Test-for Unit-II	1, A, B	1	

				Total	**10**	
III	CO3: Perform classification using supervised learning (K3)	3.01	Introduction to classification	1, A	1	Chalk and Talk, PPT
		3.02	General approach to classification problems	1, 2, C	1	
		3.03	Decision tree induction – basics	1,2	1	
		3.04	Attribute selection measures	2, A, B	1	
		3.05	Tree pruning techniques	1, 2, B	1	
		3.06	Scalability in decision trees	1,2	1	
		3.07	Visual mining for decision trees	1, A	1	
		3.08	Bayesian classification – Bayes theorem	1, 2, C	1	
		3.09	Naive Bayes classification	1,2	1	
		3.10	Rule-based classification	2, A, B	1	
		3.11	Model evaluation & selection	1, 2, C	1	
		3.12	Class Test-for Unit-IIII		1	
				Total	**12**	
IV	CO4: Analyze frequent patterns and association rules (K4)	4.01	Problem definition	1, A	1	Chalk and Talk, PPT & Video
		4.02	Frequent itemset generation	1, 2, C	1	
		4.03	Rule generation – confidence pruning	1,2	1	
		4.04	Apriori algorithm basics	2, A, B	1	
		4.05	Rule generation in Apriori	1, 2, C	1	
		4.06	Compact representation of frequent itemsets	1, 2, A	1	
		4.07	FP-Growth algorithm – introduction	1, A, B	1	
		4.08	FP-Growth algorithm – advanced	1, 2, C	1	
		4.09	Pattern evaluation methods	2, A, B	1	
		4.10	Constraint-based frequent pattern mining	1, 2, C	1	
		4.11	Classification using frequent patterns	1, 2, A	1	
		4.12	Class Test-for Unit-IV		1	
				Total	**12**	
V	CO5: Apply clustering techniques and evaluate results (K5)	5.01	Introduction to clustering	1,2, A	1	Chalk and Talk, PPT & Video
		5.02	Importance of clustering	2, A, B	1	
		5.03	Types of clusters	1, 2, C	1	
		5.04	K-Means algorithm basics	1, 2, A	1	
		5.05	K-Means additional issues	1, A, B	1	
		5.06	Bi-secting K-Means	1, 2, C	1	
		5.07	Agglomerative hierarchical clustering	2, A, B	1	
		5.08	Hierarchical clustering examples	1, 2, C	1	
		5.09	DBSCAN – basics	1, 2, A	1	
		5.10	DBSCAN algorithm	1, A, B	1	
		5.11	Strengths & weaknesses of DBSCAN	1,2,C	1	
		5.12	Evaluation of clustering methods	2, A, B	1	
		5.13	Clustering high-dimensional data	1, 2, C	1	
		5.14	Class Test-for Unit-V		1	
				Total	**14**	
CBS	Content Beyond Syllabus	1	Big Data Analytics with Hadoop & Spark		1	Talk, PPT & Video
		2	Data Mining in social media & Web Mining		1	
		3	Deep Learning for Data Mining		1	

Total	**3**	
CUMULATIVE PROPOSED PERIODS	**66**	

Text Books:

Sl. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1.	Jiawei Han, Michel Kamber, Data Mining concepts and Techniques, 3rd edition, Elsevier, 2011.
2.	Pang-Ning Tan & Michael Steinbach, Vipin Kumar, Introduction to Data Mining: Pearson, 2012.

Reference Books:

Sl. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
A	VikramPudi and P. Radha Krishna, Data Mining: Oxford Publisher.
B	Arun K Pujari, Data Mining Techniques, 3rd edition, Universities Press,2013.
C	NPTEL course by Prof. PabitraMitra

Web Details

1.	http://onlinecourses.nptel.ac.in/noc17_mg24/preview
2.	http://www.saedsayad.com/data_mining_map.htm

S. No	Name of Faculty & Section		Name	Signature with Date
i.	Faculty I	Sec/A & B	Dr. M. Vijay Raju	
ii.	Course Coordinator		Dr. M. Vijaya Raju	
iii.	Module Coordinator		Mr. K. Rajesh Kumar	20/6/26
iv.	Programme Coordinator		Professor. P. Srinivasulu	

Principal