Swarnandhra College of Engineering & Technology

Autonomous and recognized under 2(F) and 12(B) by UGC

Recognized by AICTE, permanently affiliated to JNTUK Kakinada

Accredited by NAAC with 'A' Grade (2nd Cycle)

Seetharamapurm, Narsapur – 530280 (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement
20CD7E02	PRIVACY PRESERVING DATA PUBLISHING	VII	CSE(DS)	5	2025-26	09-06-2025

COURSE OUTCOMES

1	**Understand the concepts of Privacy Preserving Data Mining Models and Algorithms**
2	**Demonstrate a comprehensive understanding of different tasks associated in Inference Control Methods for Privacy-Preserving Data Mining**
3	**Understand the concepts of Data Anonymization Methods and its Measures**
4	**Evaluate and Appraise the solution designed for Multiplicative Perturbation**
5	**Formulate, Design and Implement the solutions for Utility-based Privacy Preserving Data**

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Ref	Contact Hour	Delivery Method
I	CO – 1		**Unit-1: Introduction to PPDP**			Chalk & Board Power point presentations Assignment Test
		1.1	Introduction to Privacy-Preserving	T1	1	
		1.2	Privacy-Preserving Data Mining Algorithms	T1	2	
		1.3	The Randomization Method,	T1	2	
		1.4	Group Based Anonymization	T1	2	
		1.5	Distributed Privacy-Preserving Data Mining	T1	2	
Content beyond syllabus		1.6	Differential Privacy	R1	1	
				Total	10	

II	CO – 2		**Unit-2:Interface Control Methods**			
		2.1	Introduction to Interface Control Methods	T1	1	Chalk & Board Power point presentations Assignment Test
		2.2	A Classification of Microdata Protection Methods	T1	2	
		2.3	Perturbative Masking Methods	T1	2	
		2.4	Non- Perturbative Masking Methods	T1	2	
		2.5	Synthetic Microdata Generation	T1	2	
		2.6	Trading off Information Loss and Disclosure Risk.	T1	2	
Content beyond syllabus		2.7	Privacy Preserving in Machine Learning	R2	1	
				Total	12	
III	CO – 3		**Unit-3:Measure of Anonymity**			
		3.1	Introduction	T1	1	Chalk & Board Power point presentations Assignment Test
		3.2	Data Anonymization Methods	T1	1	
		3.3	A Classification of Methods,	T1	2	
		3.4	Statistical Measure of Anonymous	T1	1	
		3.5	Probabilistic Measure of Anonymity	T1	2	
		3.6	Computational Measure of Anonymity	T1	1	
		3.7	Reconstruction of randomization method	T1	2	
		3.8	Application of Randomization	T1	1	
Content beyond syllabus		3.9	**Local differential privacy** in detail	R1	1	
				Total	12	

IV	CO – 4		**Unit-4: Multiplicative Perturbation**			
		4.1	Definition of Multiplicative Perturbation	T1	1	Chalk & Board Power point presentations Assignment Test
		4.2	Transformation Invariant Data Mining Models	T1	1	
		4.3	Privacy Evaluation for Multiplicative Perturbation	T1	2	
		4.4	Attack Resilient Multiplicative Perturbation	T1	2	
		4.5	Metrics for Quantifying Privacy Level	T1	1	
		4.6	Metrics for Quantifying Hiding Failure	T1	2	
		4.7	Metrics for Quantifying Data Quality	T1	2	
Content beyond syllabus		4.8	Utility-privacy tradeoff optimization	R1	1	
				Total	12	
V	CO – 5		**Unit-5: Utility-Based Privacy-Preserving**			
		5.1	Introduction to Utility-Based Privacy-Preserving	T1	2	Chalk & Board Power point presentations Assignment Test
		5.2	Data Types of Utility-Based Privacy Preserving Methods	T1	2	
		5.3	Utility-Based Anonymization Using Local Recording	T1	2	
		5.4	The Utility-Based Privacy Preserving Methods in Classification Problems	T1	2	
		5.5	Anonymization Merginal	T1	2	
		5.6	Injection Utility into Anonymization Data Sets	T1	1	
Content beyond syllabus		5.7	Hadoop Ecosystem Components	T1	1	
				Total	12	
				Cumulative Proposed Periods	58	

Text Books:	
S.No.	**AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION**
1	Privacy – Preserving Data Mining: Models and Algorithms Edited by Charu C. Aggarwal and S. Yu, Springer 2008.
Reference Books:	
S.No.	**AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION**
1	Charu C. Agarwal, Data Mining: The Textbook, 1st Edition, Springer.
2	Han and M. Kamber, Data Mining: Concepts and Techniques, 3rd Edition, Elsevier.
3	Privacy Preserving Data Mining by Jaideep Vaidya, Yu Michael Zhu and Chirstopher W. Clifton, Springer
Web Details:	
1	https://sites.cs.ucsb.edu/~xyan/classes/CS290D-2009spring/reviews/privacy-preserving.pdf
2	https://www.researchgate.net/publication/250795843_Privacy-Preserving_Data_Mining_Models_and_Algorithms
3	https://dl.acm.org/doi/10.5555/1391239

		Name	**Signature with Date**
i	Faculty	V. Swami Naidu	24/06/25
ii	Module Coordinator	V. Swami Naidu	24/06/25
iii	Programme Coordinator	Dr. RVVSV Prasad	

Principal