COURSE TITLE	**DATA ETHICS AND PRIVACY**
COURSE CODE	**01AS0501**
COURSE CREDITS	**2**

Objective:

1 This course introduces data ethics, legal frameworks, and privacy-preserving practices in data and AI systems. It prepares students to design fair, transparent, secure, and regulation-compliant solutions, while applying ethical decision-making through real-world case studies and modern privacy technologies.

Course Outcomes: After completion of this course, student will be able to:

1 Understand fundamental concepts of data ethics, digital rights, and responsible AI
2 Identify ethical risks and biases in data-driven and AI-based systems.
3 Apply privacy principles and data protection regulations in system design.
4 Analyze real-world ethical dilemmas in data science and propose appropriate solutions.
5 Implement basic privacy-preserving techniques in data handling and analytics workflows.

Pre-requisite of course: Basic understanding of data, computing concepts, and fundamentals of artificial intelligence.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	**Introduction to Data Ethics** Definition and scope of data ethics, evolution of ethical issues in computing, ethical theories (utilitarianism, deontology, virtue ethics), professional codes of ethics (ACM, IEEE), digital citizenship and social responsibility	5
2	**Data Privacy Fundamentals** Concept of privacy, types of personal and sensitive data, data lifecycle and privacy risks, informed consent, data ownership, anonymization and pseudonymization, privacy by design and by default.	5
3	**Legal and Regulatory Frameworks** Overview of global data protection laws: GDPR, CCPA, DPDP Act (India), HIPAA (health data), data localization, cross-border data transfer, compliance requirements, penalties and legal consequences.	6

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Contents : Unit	Topics	Contact Hours
4	**Ethical Issues in AI and Big Data** Algorithmic bias and fairness, explainability and transparency, accountability in automated systems, surveillance and profiling, ethical challenges in facial recognition and recommendation systems, Case studies	6
5	**Privacy-Preserving Technologies and Practices** Encryption basics, access contro, differential privacy, federated learning, secure data sharing, ethical data governance frameworks, organizational policies and auditing mechanisms	6
Total Hours		**28**

Textbook :

1 Data Privacy and Security: Principles and Applications, Jaydip Sen, Wiley, 2019

2 The Ethics of Information, Luciano Floridi, Oxford University Press, 2013

References:

1 Data Privacy, Ethics and Protection, Data Privacy, Ethics and Protection, United Nations, UN Publications, 2018

2 Understanding Privacy, Understanding Privacy, Daniel J. Solove, Harvard University Press, 2008

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
20.00	30.00	25.00	15.00	10.00	

Instructional Method:

1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

2 The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

3 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory

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