Roll No.											

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 12-12-2025 **Time:** 01:00pm– 04:00pm

School: SOCSE	**Program**: B. Tech	
Course Code: CSD2016	**Course Name:** Data Ethics and Privacy	
Semester: V	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	CO1	CO2	CO3
Marks	26	36	38

Instructions:

(i) Read all questions carefully and answer accordingly.
(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	Define Data Privacy	2 Marks	L1	CO1
2.	Explain key principles of Data Ethics	2 Marks	L2	CO1
3.	Write an example for Utilitarianism	2 Marks	L1	CO1
4.	What is Anonymization? Explain	2 Marks	L2	CO2
5.	What is Profiling in Data Science? Explain	2 Marks	L2	CO2
6.	Why Federated Learning is considered as privacy-preserving?	2 Marks	L2	CO2
7.	What is the main purpose of Differential Privacy in data Science?	2 Marks	L1	CO3
8.	Write two benefits of Pseudonymization in data processing	2 Marks	L2	CO3
9.	List the rights of any individual with respect to Data Privacy	2 Marks	L1	CO3
10.	What does Section 43A of the IT Act, 2000 specify in regulation ACT?	2 Marks	L2	CO3

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	With a diagram explain the Data Scraping Architecture in Data Science	**10 Marks**	**L2**	**CO1**
	b.	Describe a Case Study on Google Flu Trends (GFT)	**10 Marks**	**L2**	**CO1**
		Or			
12.	**a.**	Describe a Case Study on Facebook emotional contagion experiment	**10 Marks**	**L2**	**CO1**
	b.	With an example the describe Importance of Ethics in Data-Driven Decision-Making	**10 Marks**	**L2**	**CO1**

13.	**a.**	Illustrate the techniques used to ensure privacy in digital environments by applying them to real-life situations	**10 Marks**	**L3**	**CO2**
	b.	Discuss how maximizing accuracy can sometimes reduce fairness. Provide a real-world case to support your answer.	**10 Marks**	**L3**	**CO2**
		Or			
14.	**a.**	Apply the concept of privacy by describing any four privacy types with suitable real-life examples	**10 Marks**	**L3**	**CO2**
	b.	"Bias cannot be fully removed, but it can be managed. " Justify this statement with reference to bias mitigation strategies.	**10 Marks**	**L3**	**CO2**

15.	**a.**	Illustrate the importance of data preservation in data science. Discuss various techniques used to ensure long-term accessibility, integrity, and usability of datasets.	**10 Marks**	**L3**	**CO3**
	b.	Show how data masking ensures privacy preservation in data science projects without compromising data utility.	**10 Marks**	**L3**	**CO3**
		Or			
16.	**a.**	Examine the provisions under the IT Act, 2000 related to data protection and privacy. How does Section 72A ensure reasonable security practices?	**10 Marks**	**L3**	**CO3**
	b.	Describe the role of poor cybersecurity practices in healthcare data leaks, using a real-world example to illustrate your points.	**10 Marks**	**L3**	**CO3**

17.	**a.**	Contrast the different types of fairness in machine learning, such as demographic parity, equal opportunity, and individual fairness. Provide examples for each	**10 Marks**	**L3**	**CO2**

	b.	Examine the role of a Data Processor in handling personal data. How their liability limited is compared to Data Fiduciaries?	**10 Marks**	**L3**	**CO3**
Or					
18.	**a.**	Analyze a real-world case where algorithmic bias led to unfair outcomes. What were the causes and consequences, and how could it have been mitigated?	**10 Marks**	**L3**	**CO2**
	b.	Discuss the challenges organizations face in implementing data minimization techniques. Suggest strategies to overcome these challenges.	**10 Marks**	**L3**	**CO3**