

# SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)  
SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER APPLICATIONS

QUESTION BANK



III SEMESTER

PMC303 - DATA SECURITY AND PRIVACY

Regulation – 2024

Academic Year 2025 – 2026(Odd Semester)

*Prepared by*

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## QUESTION BANK

**SUBJECT : PMC303 - DATA SECURITY AND PRIVACY**

**SEM/YEAR: III / II**

### **UNIT - I: ATTACKS AND PRIVACY**

Attacks: Analyzing common attack vectors – Data Security – Probabilistic reasoning about attacks –Data security mitigations. Privacy aware Machine learning and Data Science: Privacy preserving techniques in ML - Open-source libraries for PPML Architecting privacy in Data and ML projects

### **UNIT - I: PART – A**

<b>Q. No</b>	<b>Question</b>	<b>BT Level</b>	<b>Competence</b>	<b>Course Outcome</b>
1	Define <b>attack vector</b> with an example.	BTL-1	Remember	CO1
2	What is a <b>brute-force attack</b> in cybersecurity?	BTL-1	Remember	CO1
3	List any two types of <b>social engineering attacks</b> .	BTL-1	Remember	CO1
4	What is the difference between <b>passive</b> and <b>active attacks</b> ?	BTL-1	Remember	CO1
5	Define <b>data confidentiality</b> and <b>data integrity</b> .	BTL-1	Remember	CO1
6	What do you mean by <b>probabilistic reasoning</b> in the context of attacks?	BTL-1	Remember	CO1
7	Give any two examples of <b>data security breaches</b> .	BTL-1	Remember	CO1
8	What is a <b>zero-day attack</b> ?	BTL-1	Remember	CO1
9	Explain how a <b>phishing attack</b> works with a real-time example.	BTL-2	Understand	CO1
10	How does <b>encryption</b> help in data security?	BTL-2	Understand	CO1
11	Describe the role of <b>threat modeling</b> in identifying attack vectors.	BTL-2	Understand	CO1
12	Explain <b>probabilistic reasoning</b> with respect to analyzing attack likelihood.	BTL-2	Understand	CO1
13	List any two <b>data security mitigation techniques</b> .	BTL-1	Remember	CO1
14	What is the purpose of <b>access control mechanisms</b> ?	BTL-1	Remember	CO1
15	Define <b>firewall</b> and its use in network security.	BTL-1	Remember	CO1
16	What is a <b>hashing algorithm</b> ?	BTL-1	Remember	CO1
17	What is the difference between <b>symmetric</b> and <b>asymmetric encryption</b> .	BTL-2	Understand	CO1
18	How does <b>multi-factor authentication (MFA)</b> enhance data security?	BTL-2	Understand	CO1

19	Discuss how <b>regular software updates</b> help mitigate vulnerabilities.	BTL-2	Understand	CO1
20	Describe how <b>intrusion detection systems (IDS)</b> work.	BTL-2	Understand	CO1
21	What is <b>Privacy-Preserving Machine Learning (PPML)</b> ?	BTL-1	Remember	CO1
22	Name any two <b>open-source libraries</b> used for PPML.	BTL-1	Remember	CO1
23	What is <b>differential privacy</b> ?	BTL-1	Remember	CO1
24	Define <b>federated learning</b> in ML.	BTL-1	Remember	CO1

## UNIT - I: PART – B

CO1

Q. No	Question	Mark	BT Level	Competence	Course Outcome
1	Illustrate various <b>common attack vectors</b> (e.g., phishing, malware, MITM) with suitable examples. Design a simple attack scenario involving two of these vectors.	16	BTL-3	Apply	CO1
2	Analyze the working of a <b>SQL Injection attack</b> and suggest a mitigation strategy by examining its vulnerabilities.	16	BTL-4	Analyze	CO1
3	Compare <b>phishing and spear-phishing</b> attacks with real-world examples. What makes spear-phishing harder to detect?	16	BTL-4	Analyze	CO1
4	Evaluate the impact of Advanced Persistent Threats (APTs) on enterprise security. Justify your answer with at least one case study.	16	BTL-5	Evaluate	CO1
5	Apply the concept of probabilistic reasoning to estimate the likelihood of a ransomware attack on a banking system. Use basic probabilities to model and explain.	16	BTL-3	Apply	CO1
6	Analyze the relationship between <b>data confidentiality, integrity, and availability (CIA)</b> with respect to data breach incidents.	16	BTL-4	Analyze	CO1
7	Examine how <b>attack trees</b> and <b>Bayesian models</b> help in understanding and predicting cyber attacks.	16	BTL-4	Analyze	CO1
8	Critically evaluate the use of probabilistic reasoning models in cybersecurity risk assessment. What are the limitations?	16	BTL-5	Evaluate	CO1
9	Design a basic Bayesian Network model to analyze a security incident involving multiple attack paths (e.g., phishing, malware, insider threat).	16	BTL-3	Apply	CO1
10	Implement a data security plan for an educational institution. Apply techniques like access control, encryption, and backup planning.	16	BTL-3	Apply	CO1
11	Analyze and compare the effectiveness of <b>firewalls, IDS, and antivirus software</b> in protecting against external threats.	16	BTL-4	Analyze	CO1
12	Differentiate <b>preventive, detective, and corrective</b> security controls using real-time examples.	16	BTL-4	Analyze	CO1

13	Evaluate the effectiveness of multi-layered security architecture (defense-in-depth) in enterprise systems.	16	BTL-5	Evaluate	CO1
14	Evaluate the benefits and trade-offs of differential privacy vs. federated learning in real-time ML applications.	16	BTL-5	Evaluate	CO1
15	Analyze the privacy risks involved in ML-based healthcare applications. What can go wrong if privacy isn't preserved?	16	BTL-4	Analyze	CO1
16	Design a privacy-preserving ML pipeline using federated learning and differential privacy techniques. Include tools and libraries used.	16	BTL-6	Create	CO1
17	Create an architecture for a privacy-preserving data analytics platform for a retail company. Include data minimization, anonymization, and compliance aspects (e.g., GDPR).	16	BTL-6	Create	CO1

## UNIT II ENCRYPTED COMPUTATION

Encrypted computation – Types of encrypted computation: Secure Multi-party computation – Homomorphic encryption. Real-world encrypted computation: Private set intersection – Private join and compute – Secure Aggregation – Encrypted Machine Learning. PSI and Moose.

### UNIT II PART – A

Q. No	Questions	BT Level	Competence	Course Outcome
1	Define <b>encrypted computation</b> .	BTL-1	Remember	CO2
2	What is <b>Secure Multi-party Computation (SMPC)</b> ?	BTL-1	Remember	CO2
3	Define <b>homomorphic encryption</b> .	BTL-1	Remember	CO2
4	Name any two types of <b>homomorphic encryption</b> schemes.	BTL-1	Remember	CO2
5	List any two <b>applications</b> of encrypted computation.	BTL-1	Remember	CO2
6	What do you mean by <b>semi-honest adversary</b> in SMPC?	BTL-1	Remember	CO2
7	Name two cryptographic techniques used in <b>SMPC</b> .	BTL-1	Remember	CO2
8	State the difference between <b>partially</b> and <b>fully homomorphic encryption</b> .	BTL-1	Remember	CO2
9	Explain how <b>homomorphic encryption</b> allows computation on encrypted data.	BTL-2	Understand	CO2
10	Compare <b>SMPC</b> and <b>homomorphic encryption</b> in terms of privacy and computation.	BTL-2	Understand	CO2
11	Illustrate the need for <b>encrypted computation</b> in cloud environments.	BTL-2	Understand	CO2
12	Explain the term " <b>computation over encrypted data</b> " with an example.	BTL-2	Understand	CO2
13	What is <b>Private Set Intersection (PSI)</b> ?	BTL-1	Remember	CO2
14	Define <b>Private Join and Compute (PJC)</b> .	BTL-1	Remember	CO2
15	What is <b>Secure Aggregation</b> ?	BTL-1	Remember	CO2
16	Mention one <b>real-world application</b> of PSI.	BTL-1	Remember	CO2
17	What does the term <b>privacy-preserving aggregation</b> mean?	BTL-1	Remember	CO2

18	Name any two organizations using Secure Aggregation in production.	BTL-1	Remember	CO2
19	Describe the process of <b>Private Set Intersection</b> with an example scenario.	BTL-2	Understand	CO2
20	Explain how <b>Secure Aggregation</b> ensures data privacy in federated learning.	BTL-2	Understand	CO2
21	Compare <b>Private Join and Compute</b> with PSI.	BTL-2	Understand	CO2
22	+Discuss the use of <b>encrypted machine learning</b> in healthcare or finance.	BTL-2	Understand	CO2
23	What is <b>Moose</b> in the context of encrypted computation?	BTL-2	Understand	CO2
24	List one difference between <b>PSI</b> and <b>Moose</b> .	BTL-1	Remember	CO2

UNIT II PART – B					
Q. No	Question	Mark	BT Level	Competence	Course Outcome
1	<b>Design a scenario</b> in which encrypted computation is necessary. Show how either <b>homomorphic encryption</b> or <b>SMPC</b> can be applied to solve it.	16	BTL-3	Apply	CO2
2	Apply <b>partially homomorphic encryption</b> to compute the sum of encrypted data without decrypting it. Explain step by step.	16	BTL-3	Apply	CO2
3	Construct a real-world application where <b>SMPC</b> is used to compute a function collaboratively without revealing individual inputs.	16	BTL-3	Apply	CO2
4	Analyze the trade-offs between <b>homomorphic encryption</b> and <b>secure multi-party computation</b> in terms of computational cost and privacy.	16	BTL-4	Analyze	CO2
5	Compare and contrast <b>fully, partially, and somewhat</b> homomorphic encryption with examples.	16	BTL-4	Analyze	CO2
6	Analyze the limitations of using <b>encrypted computation</b> in large-scale cloud data processing.	16	BTL-4	Analyze	CO2
7	Explain how the choice of encrypted computation technique depends on the <b>threat model</b> (e.g., honest-but-curious vs malicious adversaries).	16	BTL-4	Analyze	CO2
8	Evaluate the effectiveness of <b>SMPC protocols</b> (like Yao's Garbled Circuits or GMW) in financial use cases such as joint fraud detection.	16	BTL-5	Evaluate	CO2
9	Assess the suitability of <b>homomorphic encryption</b> in a healthcare data analytics system. What are the privacy and performance implications?	16	BTL-5	Evaluate	CO2
10	Compare the <b>usability, performance, and security guarantees</b> of SMPC and homomorphic encryption in the context of secure elections.	16	BTL-5	Evaluate	CO2
11	Analyze the challenges in implementing <b>encrypted machine learning</b> and how real-world frameworks attempt to overcome them.	16	BTL-4	Analyze	CO2
12	Discuss how <b>Private Join and Compute</b> balances computation cost	16	BTL-4	Analyze	CO2

	and data confidentiality when working across datasets.				
13	Apply <b>Private Set Intersection (PSI)</b> in a contact tracing scenario where privacy of individuals is preserved.	16	BTL-3	Apply	CO2
14	Demonstrate the use of <b>Private Join and Compute</b> in ad conversion tracking with encrypted user identifiers.	16	BTL-3	Apply	CO2
15	Illustrate how <b>Secure Aggregation</b> works in federated learning. Show how client updates are encrypted and aggregated.	16	BTL-3	Apply	CO2
16	Evaluate the impact of using <b>encrypted computation</b> techniques on model accuracy and system performance in ML pipelines.	16	BTL-5	Evaluate	CO2
17	Design a secure application using Moose and PSI to allow hospitals to compute common patient statistics across institutions without revealing raw data.	16	BTL-6	Create	CO2

### UNIT – III DATA GOVERNANCE AND PRIVACY APPROACHES

Data Governance – Identifying sensitive data – Documenting data for use - Basic Privacy – Anonymization – Differential privacy – Privacy loss – Differential privacy with Laplace mechanism – Gaussian noise for differential privacy – Sensitivity and Privacy units – kAnonymity – Building Privacy into Data Pipelines.

Q. No	Questions	BT Level	Competence	Course Outcome
<b>UNIT III PART – A</b>				
1	Define <b>data governance</b> .	BTL-1	Remember	CO3
2	What is meant by <b>sensitive data</b> ?	BTL-1	Remember	CO3
3	List any two examples of <b>personally identifiable information (PII)</b> .	BTL-1	Remember	CO3
4	What do you mean by <b>data documentation</b> ?	BTL-1	Remember	CO3
5	Define the term <b>metadata</b> in the context of data governance.	BTL-1	Remember	CO3
6	State two key objectives of <b>data governance policies</b> .	BTL-1	Remember	CO3
7	Explain why it is important to <b>identify and label sensitive data</b> .	BTL-2	Understand	CO3
8	Describe how <b>data documentation</b> supports transparency in data usage.	BTL-2	Understand	CO3
9	Differentiate between <b>sensitive</b> and <b>non-sensitive data</b> with examples.	BTL-2	Understand	CO3
10	Explain the relationship between <b>data governance</b> and <b>compliance requirements</b> (e.g., GDPR, HIPAA).	BTL-2	Understand	CO3
11	What is <b>basic data privacy</b> ?	BTL-1	Remember	CO3
12	Define <b>anonymization</b> .	BTL-1	Remember	CO3
13	What is <b>k-anonymity</b> ?	BTL-1	Remember	CO3
14	List two techniques used for <b>anonymization</b> of data.	BTL-1	Remember	CO3
15	What is a <b>quasi-identifier</b> ?	BTL-1	Remember	CO3
16	Define <b>re-identification risk</b> .	BTL-1	Remember	CO3
17	Explain the concept of <b>k-anonymity</b> with a simple example.	BTL-2	Understand	CO3
18	Discuss the limitations of <b>basic anonymization techniques</b> .	BTL-2	Understand	CO3
19	Differentiate between <b>anonymization</b> and <b>pseudonymization</b> .	BTL-2	Understand	CO3
20	Why is <b>k-anonymity</b> considered insufficient for high-risk datasets?	BTL-2	Understand	CO3
21	Define differential privacy.	BTL-1	Remember	CO3

22	What is the <b>Laplace mechanism</b> in differential privacy?	BTL-1	Remember	CO3
23	What is meant by <b>sensitivity</b> in differential privacy?	BTL-1	Remember	CO3
24	What is the role of <b>Gaussian noise</b> in privacy preservation?	BTL-1	Remember	CO3

UNIT III PART – B					
Q. No	Question	Mark	BT Level	Competence	Course Outcome
1	Apply the principles of <b>data governance</b> to design a data access policy for a healthcare institution.	16	BTL-3	Apply	CO3
2	Demonstrate how to <b>identify sensitive data</b> in a banking dataset using data classification techniques.	16	BTL-3	Apply	CO3
3	Create a data documentation plan for a dataset used in a <b>machine learning project</b> , including metadata and data lineage.	16	BTL-3	Apply	CO3
4	Analyze the <b>challenges in identifying sensitive data</b> in a large enterprise environment with structured and unstructured data.	16	BTL-4	Analyze	CO3
5	Compare and contrast different <b>data documentation approaches</b> and explain their impact on privacy compliance and auditability.	16	BTL-4	Analyze	CO3
6	Apply <b>anonymization techniques</b> to transform a sample dataset while retaining its analytical value.	16	BTL-3	Apply	CO3
7	Use a real-life example to explain how <b>k-anonymity</b> can protect user identities in a public dataset.	16	BTL-3	Apply	CO3
8	Analyze the risks of <b>re-identification</b> in anonymized datasets and explain how <b>quasi-identifiers</b> contribute to the problem.	16	BTL-4	Analyze	CO3
9	Compare <b>k-anonymity, l-diversity, and t-closeness</b> . In which scenarios is each more effective?	16	BTL-4	Analyze	CO3
10	Evaluate the effectiveness of <b>traditional anonymization techniques</b> versus <b>modern privacy-preserving methods</b> (like differential privacy) in the context of e-commerce data.	16	BTL-5	Evaluate	CO3
11	Use a numerical example to demonstrate the working of <b>Gaussian noise</b> in differential privacy.	16	BTL-3	Apply	CO3
12	Analyze how <b>privacy loss</b> is calculated and managed in differential privacy. What does the privacy budget represent?	16	BTL-4	Analyze	CO3
13	Differentiate between <b>Laplace mechanism and Gaussian mechanism</b> with their mathematical formulation and use cases.	16	BTL-4	Analyze	CO3
14	Design a <b>data pipeline</b> that incorporates privacy-preserving steps such as encryption, access control, and anonymization.	16	BTL-3	Apply	CO3
15	Implement a privacy-aware data flow in a <b>real-time analytics pipeline</b> using tools like Apache Kafka or Spark.	16	BTL-3	Apply	CO3
16	Propose an architecture to embed <b>differential privacy mechanisms</b> directly into an ML training pipeline.	16	BTL-6	Create	CO3
17	Create a complete privacy governance framework for a company that handles user behavioral data for targeted advertising.	16	BTL-6	Create	CO3

**UNIT – IV    FEDERATED LEARNING AND DATA SCIENCE**

Distributed data – Distributed Optimization - Federated learning – Architecting federated systems – Open-source federated libraries – Federated data science

Q. No	Questions	BT Level	Competence	Course Outcome
<b>UNIT IV PART – A</b>				
1	Define <b>distributed data</b> .	BTL-1	Remember	CO4
2	What is <b>data partitioning</b> in distributed systems?	BTL-1	Remember	CO4
3	List two examples of <b>distributed data storage systems</b> .	BTL-1	Remember	CO4
4	What is meant by <b>data locality</b> ?	BTL-1	Remember	CO4
5	Define <b>distributed optimization</b> .	BTL-1	Remember	CO4
6	Name any two techniques used in <b>distributed optimization</b> .	BTL-1	Remember	CO4
7	What is a <b>parameter server</b> in distributed learning?	BTL-1	Remember	CO4
8	Mention any two challenges in handling distributed data.	BTL-1	Remember	CO4
9	What is <b>federated learning</b> ?	BTL-1	Remember	CO4
10	List two advantages of federated learning.	BTL-1	Remember	CO4
11	What is a <b>federated averaging algorithm (FedAvg)</b> ?	BTL-1	Remember	CO4
12	Define <b>client drift</b> in federated learning.	BTL-1	Remember	CO4
13	Name any two devices where federated learning is commonly used.	BTL-1	Remember	CO4
14	What is <b>model aggregation</b> in federated systems?	BTL-1	Remember	CO4
15	Explain the difference between <b>federated learning</b> and <b>centralized learning</b> .	BTL-2	Understand	CO4
16	Describe the concept of <b>on-device learning</b> in federated environments.	BTL-2	Understand	CO4
17	Discuss how <b>privacy</b> is maintained in federated learning.	BTL-2	Understand	CO4
18	Explain how <b>federated learning supports personalization</b> of models.	BTL-2	Understand	CO4
19	Identify key components of a <b>federated learning architecture</b> (e.g., client, server, aggregator).	BTL-2	Understand	CO4
20	Describe the challenges of <b>communication efficiency</b> in federated systems.	BTL-2	Understand	CO4
21	<b>Discuss</b> any two key features of PySyft and how they support federated learning.	BTL-2	Understand	CO4
22	<b>Explain</b> the concept of federated data science in your own words.	BTL-2	Understand	CO4
23	<b>Describe</b> two real-world applications of federated data science and how they benefit from data privacy.	BTL-2	Understand	CO4
24	<b>Interpret</b> two commonly used metrics to evaluate performance in federated learning environments.	BTL-2	Understand	CO4

<b>UNIT IV PART – B</b>					
Q. No	Question	Mark	BT Level	Competence	Course Outcome
1	Apply a <b>distributed data architecture</b> for a multinational company managing real-time analytics across geolocations.	16	BTL-3	Apply	CO4
2	Demonstrate how <b>gradient descent</b> can be adapted to work in a distributed environment.	16	BTL-3	Apply	CO4
3	Illustrate the role of <b>parameter servers</b> in distributed optimization with a case study from a large-scale ML training scenario.	16	BTL-3	Apply	CO4
4	Construct a federated learning scenario involving mobile devices	16	BTL-3	Apply	CO4

	using FedAvg and explain the step-by-step flow.				
5	Analyze the impact of <b>data partitioning strategies</b> (horizontal vs. vertical) on performance and fault tolerance.	16	BTL-4	Analyze	CO4
6	Compare and contrast <b>synchronous vs. asynchronous distributed optimization</b> with respect to convergence and scalability.	16	BTL-4	Analyze	CO4
7	Examine the trade-offs between <b>data consistency and scalability</b> in distributed data systems.	16	BTL-4	Analyze	CO4
8	Apply federated learning to a healthcare application involving multiple hospitals with patient data privacy constraints.	16	BTL-3	Apply	CO4
9	Analyze the problem of <b>client drift</b> and its impact on model convergence in non-IID federated data.	16	BTL-4	Analyze	CO4
10	Compare <b>federated learning</b> and <b>traditional centralized learning</b> in terms of privacy, latency, and model performance.	16	BTL-4	Analyze	CO4
11	Discuss the challenges of <b>handling stragglers and dropped clients</b> in federated learning environments	16	BTL-4	Analyze	CO4
12	Break down the stages of a federated learning system pipeline, highlighting where architectural optimizations can be made.	16	BTL-4	Analyze	CO4
13	Design a high-level architecture for a federated system used in real-time predictive maintenance in manufacturing.	16	BTL-3	Apply	CO4
14	Assess the benefits and limitations of using <b>open-source libraries</b> for deploying federated learning at scale.	16	BTL-5	Evaluate	CO4
15	Compare the <b>deployment flexibility, scalability, and community support</b> among federated libraries like FATE, OpenFL, and Flower.	16	BTL-5	Evaluate	CO4
16	Propose a federated data science workflow for a <b>collaborative fraud detection system</b> across multiple financial institutions without sharing raw data.	16	BTL-6	Create	CO4
17	Design a complete <b>federated learning architecture</b> with edge devices, model server, aggregator, and privacy-preserving techniques for a smart city application.	16	BTL-6	Create	CO4

### UNIT – V LEGALITY OF PRIVACY

GDPR – CCPA – HIPAA - LGPD - PIPL- Internal policies and contracts – Adhering to contract agreements and law – Interpreting Data protection regulations – Data governance 2.0 - Indian Data Protection Framework - Use case analysis.

Q. No	Questions	BT Level	Competence	Course Outcome
<b>UNIT V PART – A</b>				
1	Define <b>GDPR</b> .	BTL-1	Remember	CO5
2	List two key rights provided to individuals under GDPR.	BTL-1	Remember	CO5
3	What is the purpose of a <b>Data Protection Impact Assessment (DPIA)</b> under GDPR?	BTL-1	Remember	CO5
4	Describe the concept of <b>consent</b> under GDPR.	BTL-1	Remember	CO5
5	Explain the role of a <b>Data Protection Officer (DPO)</b> as per GDPR.	BTL-1	Remember	CO5

6	Define <b>CCPA</b> and mention one of its main objectives.	BTL-1	Remember	CO5
7	What are two rights given to consumers under the CCPA?	BTL-1	Remember	CO5
8	Differentiate between <b>GDPR and CCPA</b> in terms of scope and applicability.	BTL-1	Remember	CO5
9	What is the primary goal of <b>HIPAA</b> ?	BTL-1	Remember	CO5
10	List two types of entities covered under HIPAA.	BTL-1	Remember	CO5
11	Define <b>Protected Health Information (PHI)</b> .	BTL-1	Remember	CO5
12	What is <b>LGPD</b> ?	BTL-1	Remember	CO5
13	Mention two similarities between <b>LGPD and GDPR</b> .	BTL-1	Remember	CO5
14	Describe the term <b>data subject rights</b> under LGPD.	BTL-2	Understand	CO5
15	What is <b>PIPL</b> ?	BTL-2	Understand	CO5
16	List two key principles of data protection under PIPL.	BTL-2	Understand	CO5
17	Explain how <b>user consent</b> is handled in PIPL.	BTL-2	Understand	CO5
18	Describe the role of <b>data localization</b> under PIPL.	BTL-2	Understand	CO5
19	Compare <b>PIPL and GDPR</b> in terms of enforcement.	BTL-2	Understand	CO5
20	Define <b>internal data policy</b> in the context of data protection.	BTL-2	Understand	CO5
21	Mention two reasons why <b>contract compliance</b> is important in data privacy.	BTL-2	Understand	CO5
22	Explain the need for <b>interpreting data protection regulations</b> accurately.	BTL-2	Understand	CO5
23	Describe how organizations can <b>adhere to data sharing contracts</b> .	BTL-2	Understand	CO5
24	What is <b>Data Governance 2.0</b> and how does it differ from traditional data governance?	BTL-2	Understand	CO5

#### UNIT V PART – B

Q. No	Question	Mark	BT Level	Competence	Course Outcome
1	Apply the key principles of <b>GDPR</b> to design a privacy-compliant data handling system for a European e-commerce platform.	16	BTL-3	Apply	CO5
2	Demonstrate how a <b>healthcare application</b> should be designed to comply with <b>HIPAA</b> regulations.	16	BTL-3	Apply	CO5
3	Illustrate how a company based in California must handle user data to comply with <b>CCPA</b> .	16	BTL-3	Apply	CO5
4	Implement the <b>Indian Data Protection Bill</b> principles in the development of a local fintech app.	16	BTL-3	Apply	CO5
5	Show how <b>internal privacy policies and contracts</b> can be aligned with global data protection laws in a multinational organization.	16	BTL-3	Apply	CO5
6	Analyze the similarities and differences between <b>GDPR, CCPA, and PIPL</b> in terms of consent, user rights, and enforcement.	16	BTL-4	Analyze	CO5
7	Examine the impact of <b>LGPD</b> on Brazilian startups handling personal data of EU and non-EU citizens.	16	BTL-4	Analyze	CO5
8	Compare <b>HIPAA and GDPR</b> in the context of healthcare data privacy and cross-border data flow.	16	BTL-4	Analyze	CO5
9	Analyze a <b>real-world data breach</b> case and evaluate the failure of adherence to data privacy laws.	16	BTL-4	Analyze	CO5
10	Break down the key elements of <b>Data Governance 2.0</b> and how it improves upon traditional governance practices.	16	BTL-4	Analyze	CO5

11	Analyze the key components of Data Governance 2.0 and explain how each can contribute to improved transparency and compliance in a government data portal.	16	BTL-4	Analyze	CO5
12	Design a data privacy framework that integrates GDPR, HIPAA, and Indian data protection laws for a multinational healthtech company.	16	BTL-6	Create	CO5
13	<b>Demonstrate</b> how a unified policy structure can be implemented to manage internal contracts and data sharing in compliance with local laws.	16	BTL-3	Apply	CO5
14	<b>Illustrate</b> how a financial services app operating in California and Brazil can meet the data privacy requirements of both CCPA and LGPD.	16	BTL-3	Apply	CO5
15	Justify whether the <b>Personal Data Protection Bill (India)</b> sufficiently addresses privacy concerns for citizens and tech companies.	16	BTL-5	Evaluate	CO5
16	Critically assess the role of <b>Data Protection Officers (DPOs)</b> under different privacy regulations like GDPR and PIPL.	16	BTL-5	Evaluate	CO5
17	Create a compliance checklist for an Indian startup handling EU, US, and Chinese citizen data.	16	BTL-6	Create	CO5