

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-V Semester (CSE)

COURSE CODE (CREDITS): 25B11CI513 (3)

MAX. MARKS: 25

COURSE NAME: Cloud Computing and Security

COURSE INSTRUCTORS: ARV*

MAX. TIME: 1 Hour 30 Min

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	(a) List and describe any five common cyber-attack vectors. (b) Explain why Multi-Factor Authentication (MFA) can reduce the effectiveness of several cyber-attack vectors.	3	4
Q2	(a) How does data encryption contribute to data security? (b) A company classifies its data into three categories: Public (60%), Internal (30%), and Confidential (10%). If the organization has 2 TB of data, calculate the volume of each category and suggest appropriate security measures.	2	5
Q3	(a) List and explain the main components of a Public Key Infrastructure (PKI). (b) Discuss how PKI enables confidentiality, integrity, and authentication in cloud systems.	2	5
Q4	(a) What is tokenization and how does it differ from encryption? (b) Differentiate between data obfuscation, encryption, and masking with suitable examples.	2	5
Q5	(a) A company stores 1 TB of data. To ensure protection, it maintains 3 redundant copies (including the original). If cloud storage costs ₹2 per GB per month, calculate the total monthly storage cost. (b) An organization stores 5 TB of data in the cloud. Encryption adds a 7% overhead to the storage size. Calculate the total storage required after encryption. (c) A file of 40 GB is first compressed by 25% and then encrypted with a 5% overhead. Find the final size of the file. (d) A company keeps 3 independent copies of critical data. Probability of loss of one copy in a year is 0.01 (1%). What is the probability of losing all three copies?	2,3	6