

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-V Semester (CSE/IT)

COURSE CODE (CREDITS): 20B1WCIS32 (02)

MAX. MARKS: 25

COURSE NAME: CLOUD COMPUTING: CONCEPTS, TECHNOLOGY & ARCHITECTURE

COURSE INSTRUCTORS: PKG, NKR, VNS

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	Explain the role of Drupal and Longjump frameworks in the cloud and software ecosystem. How do they differ in terms of functionality, deployment model, and target use cases?	CO2	4
Q2	What is the difference between compliance as a service (CaaS) and traditional compliance audits? How does CaaS improve operational efficiency for regulated industries?	CO2	4
Q3	A retail company experiences heavy traffic spikes during festival sales. As a cloud architect, design a capacity planning strategy to ensure uninterrupted service availability.	CO2	4
Q4	A company wants to run AI/ML workloads on the cloud. Explain the trade-offs between IaaS, PaaS, and SaaS for these workloads, focusing on customization, performance, and cost.	CO3	3
Q5	During a load test, a web service can handle 2,500 requests per second with a response time of 200 ms. If the expected peak traffic is 8,000 requests per second, how many instances are required to handle the load while maintaining performance?	CO3	4
Q6	Describe the role of load testing and resource ceilings in ensuring optimal cloud performance. Why are they essential in Capacity Planning?	CO3	3
Q7	A video streaming service expects traffic of 12,000 concurrent users, with each stream requiring 3 Mbps bandwidth. Current network capacity = 25 Gbps. Is the current capacity sufficient? If not, how much more bandwidth is required?	CO3	3