JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

B.Tech-VI Semester (CSE/IT/ECM)

COURSE CODE (CREDITS): 19B1WCI635 MAX. MARKS: 15

COURSE NAME: Architecting Distributed Cloud Applications

COURSE INSTRUCTORS: ARV, NTS* MAX. TIME: 1 Hour

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	(i) A company has a traditional on-premises application and is considering migrating to the cloud. Explain why they should consider using cloud-based deployment instead of an on-premises setup. Describe four benefits they will gain by using cloud computing. (ii) Describe the different approach undertaken in cloud-based application to handle failures in contrast to a traditional application.	1	[4+2]
Q2	(i) How do microservices improve the scalability, reliability, and maintainability of cloud-based applications? A large e-commerce platform experiences high traffic fluctuations during sales events. Explain how auto-scaling in cloud microservices can help manage this situation efficiently. (ii) Explain and debunk two common myths associated with microservice architecture.	1	[3+1]
Q3	Explain the difference between orchestrators and containers in cloud computing with an example of how they work together in real-world applications.	1	[3]
Q4	A cloud-based distributed system uses replication for fault tolerance. Each piece of service is stored on 5 different nodes. If the probability of a node failing in a day is 5%, what is the probability that the data is still available?	1	[2]