

B.E Sem III C-scheme Summer 2025 - 10/06/2025
ECS

Time: 3 hours

Max. Marks: 80

- N.B. : (1) Question No.1 is compulsory
(2) Write any three questions from Q. 2 to Q.6.
(3) Draw neat diagrams wherever necessary.

- Q1** Attempt any 4 questions:
- a Explain the role of virtualization in cloud computing. 5
 - b How can you use Database-as-a-Service (DBaaS) to improve data scalability and management in an e-commerce business? 5
 - c Explain NIST model. 5
 - d In what ways can you apply Virtual Machine Monitor (VMM) to enhance security and isolation in virtualized systems? 5
 - e What are the potential disadvantages or risks associated with cloud computing? 5
- Q2**
- a Given a scenario where a company wants to reduce operational costs, how would you implement virtualization to achieve this goal? 10
 - b Differentiate between different levels of virtualization (hardware-level, OS-level, application-level) when designing a cloud infrastructure. 10
- Q3**
- a How would you apply Security-as-a-Service to enhance data protection in an organization's cloud environment? 10
 - b Demonstrate the advantages of Xen architecture in a cloud computing. 10
- Q4**
- a Explain the key architectural components of OpenStack 10
 - b Explain the role of the Cloud Controller (CLC) in Eucalyptus. 10
- Q5**
- a What are the key steps involved in developing a disaster recovery plan for cloud-based businesses? 10
 - b What are the common network security threats faced by cloud computing systems? 10
- Q6** Write a short note on (Solve any 2) 20
- a AAA (Authentication, Authorization, and Accounting) model in cloud security
 - b Benefits and limitations of Platform as a Service (PaaS)
 - c Modes of operations in OpenStack
