

ADMISSION NUMBER									

## School of Computing Science and Engineering

MCA with Industry Oriented Specialization in Cloud Computing

Semester End Examination - Nov 2023

Duration : 180 Minutes

Max Marks : 100

### Sem III - MCAE2332 - Fundamentals of Virtualization Cloud Security and Management

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Compare and Contrast full virtualization and paravirtualization, highlighting their key differences in terms of resource utilization, performance, and guest operating system Compatibility. K1 (2)
- 2) Compare and Contrast Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). K2 (4)
- 3) List the key characteristics of cloud deployment models., Recall the benefits of using cloud services. Name the three primary cloud deployment models. K2 (6)
- 4) Discuss the key security and Compliance challenges that organizations may encounter when adopting cloud solutions, emphasizing factors such as data protection, identity management, regulatory requirements, and security Controls. Elaborate on why it is crucial for organizations to address these Concerns effectively when Considering cloud implementations. K3 (9)
- 5) Given a scenario, suggest a suitable virtualization technology for optimizing resource allocation in a data center. K3 (9)
- 6) Create a Comprehensive decision framework that Considers factors such as business requirements, security needs, data governance, scalability, and Cost-effectiveness when selecting the most suitable cloud delivery model for an organization. K5 (10)
- 7) Identify specific scenarios where scalability and performance are critical factors in cloud implementations, and explain the benefits that organizations can achieve by leveraging the scalability and performance capabilities of cloud solutions. Provide examples of how organizations can effectively utilize the scalability and performance features offered by the cloud to meet their business requirements. K4 (12)

- 8) Describe the key security and Compliance factors that organizations should Consider when implementing cloud solutions and discuss why they are critical to the overall success of the implementation. K5 (15)
- 9) Describe the benefits and challenges of implementing a private cloud, highlighting aspects such as enhanced security, dedicated resources, and Control over infrastructure. Evaluate Cost Factor to implement. K5 (15)
- 10) Explain the importance of security and Compliance in cloud implementations. Assess the potential risks and benefits of vendor lock-in in the SaaS delivery model. K6 (18)