



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SLOT: B2+TB2

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - 2
FALL SEMESTER 2025-2026

Programme Name & Branch : B.Tech Computer Science and Engineering
Course Code and Course Name : BCSE 408L Cloud Computing
Faculty Name (s) : Prof. Anil Kumar, Prof. Siva Shanmugam, Prof. Padma Priya R,
Prof. Bharathi S, Prof. Iswarya P.
Class Number(s) : 1898, 1906, 1924, 1911, 1918
Date of Examination : 06/10/2025
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- Course Outcomes:
 1. CO3 Apply the various cloud security concepts for application development.
 2. CO4 Design and manage cloud services with cloud simulation and various cloud platforms.

Q. No	Question	M	CO	BL
1.	a) Assume that an IT wing of a hospital has planned to transform the management of current health care services from a public cloud to a private cloud establishment to achieve enhanced data analysis and better Quality of Services (QoS) guarantees. Migrating a VM from a physical host belonging to a public cloud to a physical host belonging to a private cloud. Is this possible? Justify your answer. Elucidate the challenges to be handled in VM migration process in this context (3 marks). b) Assume that VMs to be migrated among the physical machines belonging to the same private cloud. Elaborate the lifecycle steps in VM migration process without facing a downtime considering this scenario (7 marks).	10	CO4	2
2.	Assume that a CEO of a company has invited the cloud admin to discuss the various possibilities to establish a private cloud infrastructure for their online based shopping business. Consider yourself as the cloud admin and convey the following: a) Elucidate various types of private clouds to host their business services. b) In this regard, mention OpenStack belongs to which type. c) Elaborate the flow of interactions among the prime components in OpenStack in establishing an online based shopping business.	10	CO4	4
3.	a) Consider a hospital scenario. Assume that the hospital's IT wing is willing to launch a Web Server deployed in a VM in their cloud. The admin is expected to carry out four operations like VM Provisioning, VM Allocation, VM Migration, VM Scheduling in this deployment to handle the incoming traffic. Mention the appropriate order that is to be followed among these mentioned operations with respect to the scenario (2 marks). b) Traffic engineering is a pivotal role for a cloud admin. Developing intelligent scripts is indeed considered as an essential task. Discuss about role	10	CO3	4



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	of load balancing and energy optimization functions from compute and communication network perspective (8 marks).			
4.	Expenditure is a concern of high priority for a data center establishment. Hence, investors generally explore cost management strategies. In this regard discuss about the following: a) Energy and Operational Optimization (OpEx Reduction) (5 marks) b) Infrastructure Modernization and Lifecycle (CapEx Reduction) (5 marks)	10	CO3	4
5.	A Payment Processing System is a network of technologies and services that securely handles the entire lifecycle of an electronic financial transaction. Primary components in this system are the merchant, the customer, the payment gateway, the payment service that connects to financial networks, the acquiring bank (merchant bank), and the issuing bank (customer bank). It acts as the intermediary that authorizes, settles, and manages the funds for credit card, debit card, and other electronic payments. In this context discuss about goals, plausible threats and security control methodologies to be deployed to hold CIA triad based security model.	10	CO3	4
