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

SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS
CONTINUOUS ASSESSMENT TEST - I
FALL SEMESTER 2025-2026

SLOT: C2+TC2+TCC2

Programme Name & Branch	: MCA
Course Code and Course Name	: PAMCA601 & Cloud Computing
Faculty Name(s)	: Dr. SATHIYAMOORTHY E & Dr. R.K. NADESH
Class Number(s)	: VL2025260106884, VL2025260106369
Date of Examination	: 19.08.2025
Exam Duration	: 90 minutes Maximum Marks: 50

General instruction(s):

- Answer All Questions
- Course Outcomes
  - Analyze the convergence of computing paradigms and virtualization in cloud environments.

Q. No	Question	M	CO	BL
1.	With reference to modern computational paradigms, illustrate the evolution of High-Performance Computing (HPC) systems and High Throughput Computing (HTC) systems. Discuss their architectural differences, performance metrics, and application domains. Support your answer with suitable examples.	10	1	1
2.	Harish Retails is one of the fast-growing e-commerce companies. During its annual "Mega Sale" event, their website experiences a 500% increase in traffic. Last year, their on-premise servers failed due to the sudden spike, resulting in major revenue loss. This year, the company decides to migrate its infrastructure to a cloud service provider. As the cloud architect, you are tasked with ensuring the platform performs well under high load and avoids any downtime. The leadership team is also concerned about costs and wants to ensure they only pay for what they use. Identify and explain at least five key characteristics of cloud computing that make it suitable for Harish Retail's needs. How do these characteristics directly address the company's concerns and goals?	10	1	2
3.	A well-known institute is planning to offer their various degree programmes online. The institute aims to build an integrated platform that will host interactive online classes with real-time video streaming, whiteboard sharing, and breakout rooms. It also provides AI-driven	10	1	3

	adaptive learning that personalizes course content based on each student's performance. Finally, maintains a secure student information system with records of grades, attendance, and fees. Assuming you are the architect, Identify and elaborate the most suitable cloud service models and appropriate deployment models to balance scalability, cost and interoperability.			
4.	A university with multiple campuses located across the globe faces challenges in maintaining computer labs for engineering and science students. Each lab requires frequent updates to software such as matlab, visual studio etc. Students need remote access to the tools for project work, but the university's current infrastructure only supports on-campus use. The IT budget is limited, and replacing outdated PCs in labs is costly. As an IT architect, explain how Desktop Virtualization can address the university's problems. State the specific needs it fulfils and support your answer with examples.	10	1	4
5.	A reputed institute has its own data center for all its computing need; on the day of course registration, the administrator identified the performance issue in a server and immediately scheduled to migrate the virtual instances running. With a neat flow diagram, elucidate the migration process from one host to another.	10	1	5

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