**VIT**
Vellore Institute of Technology

**Final Assessment Test – November/December 2023**

Course:    PMCA506L   -   Cloud Computing

Time: Three Hours

Max. Marks: **100**

KEEPING MOBILE PHONE/SMART WATCH, EVEN IN 'OFF' POSITION, IS TREATED AS EXAM MALPRACTICE

Answer <u>ALL</u> Questions

(10 X 10 = 100 Marks)

1. "Cloud Computing Everywhere", what motivated the shift to cloud computing. Elaborate on the key factors that contributed to the start of the cloud computing paradigm.

2. Although the cloud approach works well for traditional computation, the network latency incurred when sending data between a customer and a remote data center can make cloud computing inappropriate for some applications. How can cloud computing be adapted to meet the requirements for low latency? Elaborate with an example.

3. How can a data center network be designed that handles large volumes of east-west traffic without using a hierarchical design?

4. The complex interconnections, multiple levels of virtualization, arbitrary placement of addressable entities, and VM migration make configuring and operating a data center network especially difficult. How could the cloud service provider manage virtualization and mobility with network virtualization and Software Defined Network? Elaborate with examples.

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.

6. Consider an e-commerce application using micro services for online shopping payment processing. Identify and elaborate the communication protocol used for micro services.

7. How can a provider offer serverless computing that scales from zero to infinity and achieves both efficiency & low cost? Explore the architecture of serverless infrastructure with suitable example to demonstrate serverless processing.

8. Elaborate the Control Plane Software Components and Worker Node Software Components in the Kubernetes Cluster.

9. For an organization, to build the automated data center, explore the items that can be automated and also the levels of automation.

10. A small finance company having more than fifty branches across the country owns their portal in cloud and uses multi-cloud services for their business transactions. Identify the possible threats and attacks they could expect in their business process. Deduce your answer from the aspect of end user, network and the service provider.

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