Final Assessment Test – November 2024

Course: **PMCA506L** - **Cloud Computing**

Class NBR(s): **3150 / 3213 / 3251**

Slot: **F2+TF2**

Time: **Three Hours**

Max. Marks: **100**

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Vellore Institute of Technology

➤ KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE
➤ DON'T WRITE ANYTHING ON THE QUESTION PAPER

Answer ALL Questions

(10 X 10 = 100 Marks)

1. "Transforming the business model for growth with a hybrid cloud approach, lowers application costs and improves return on investment." Justify.

2. Explain how SOA for an insurance company helps in developing modular and flexible software infrastructure, where individual services can be developed, tested, and deployed independently.

3. Elaborate on the leaf spine architecture with an appropriate example.

4. Companies analyze data to derive business intelligence and actionable insights. Cloud infrastructure includes data warehousing technology to store large volumes of data in an integrated way. How can an IaaS vendor support big data analytics by providing services that help manage data more efficiently?

5. An automobile company having plants in 3 different cities of a state plans to digitize its data and store it in a Hadoop cluster using HDFS. Write down the architectural components of the Hadoop cluster and the HDFS features for this application.

6. X Airlines wanted to provide convenient digital services for customers and understood there was an opportunity to remove the constraints of the existing legacy architecture, platform, organization, development and operations approaches. Customer-facing applications were based on monolithic code, duplicated and managed in silos. To respond better and faster to customer needs how can DevOps project lifecycle be applied to increase agility.

7. Give notes on the key concepts and features of Dockers and Kubernetes.

8. Delineate the pros and cons of full and para virtualization of a company having multicloud strategy.

9.a) How does Memory, Storage and Network virtualization signify the concept and the essential characterisitics of a cloud?

OR

9.b) One of the world's largest electronic retailers want to find the top selling product during the festive season. Describe in detail the application of MapReduce framework to solve this problem.

10.a) Cloud security, is a collection of measures designed to protect cloud-based infrastructure, applications, and data. How can security be ensured for:

i) User and device authentication

ii) Data and resource access control

iii) Data privacy protection

iv) Regulatory data compliance

OR

10.b) What is the need for automation in a data centre? What can be automated and elaborate on the different levels of automation?

⇔⇔⇔ J/L/TX ⇔⇔⇔