Assignment
Cloud Computing
3rd year 1st semester, 2022-23

CO1(**Define** Cloud Computing and assess different Cloud service and deployment models)
Full marks 20

1. Define cloud computing.
2. What is the characteristic of cloud computing?
3. Which are the technologies on which cloud computing relies?
4. How is cloud development different from traditional software development?
5. Briefly summarize the challenges still open in cloud computing.
6. Describe the main advantages of cloud computing.
7. What are the advantages and disadvantages of shared memory architecture in parallel computing?
8. Compare parallel computing with serial Computing.
9. What are the advantages of Distributed memory architecture in parallel computing?
10. What are the disadvantages of Distributed memory architecture in parallel computing?

CO2(**Examine** and assess importance of different types of virtualization along with their technologies.**) Full marks 30**

1. What is virtualization?
2. What are the benefits of virtualization?
3. What are the characteristics of virtualized environments?
4. Discuss classification or taxonomy of virtualization at different levels.
5. Discuss the machine reference model of execution virtualization.
6. What are hardware virtualization techniques?   full, para, OS level, VM
7. List and discuss different types of virtualization.
8. What are the benefits of virtualization in the context of cloud computing?
9. What are the disadvantages of virtualization?
10. What is Xen? Discuss its elements for virtualization.
11. Discuss the reference model of full virtualization.
12. Discuss the architecture of Hyper-V. Discuss its use in cloud computing.

CO3 (**Use** and **Examine** different cloud computing services**)**
Full marks 30

1. Explain about open source cloud platform and their services.
2. Describe the Content Delivery Services of the cloud environment? How does it differ from traditional content delivery?
3. Discuss some notable features of Amazon EC2.
4. Write short notes on: Simple storage service, Google Compute Engine, Google BigQuery, Amazon Elastic MapReduce.
5. What is "EUCALYPTUS" in cloud computing? Why is it used?
6. Explain the architecture of CloudStack, Eucalyptus and open stack services.
7. Are there any advantages of AWS CloudFormation service model over AWS Elastic Beanstalk?
8. Explain application services, content delivery services, and analytical services of OpenStack.

9. Explain Deployment and Management Services of Openstack.
10. What is the difference between cloud and traditional databases?
11. What is the usage of virtualization platform in implementing cloud?
12. How can we use Windows Azure Virtual Machines.
13. How big is the cloud? Can a cloud run out of space?
14. Is it safe to put all your data in the cloud?
15. What is the platform as a service?

CO4 (**Analyze** algorithms for management of cloud resources including scheduling, placement and assess their performances.) Full marks 10

1. What are the different types of resource model available in Cloud Computing Environment?
2. Explain the data model if data is stored at un-trusted host.
3. Why does Cloud tend to adopt virtualization for resource management?
4. Briefly describe any one solution for resource management:
   a. Energy-Efficient Resource Management for Cloud Computing Infrastructures
   b. Cloud Computing Resource Management through a Grid Middleware

CO5 (**Understand** and **explain** various security solutions for Web and Cloud infrastructure)
Full marks 10

1. Discuss the security architectures of physical and logical infrastructures including compute, network and storage of cloud applications.
2. Discuss the following issues:
   a. Malicious insider
   b. Shared technology
   c. Data leakage
   d. Data center security