**Cloud Computing 21MCA302**

**Module-wise Question Bank**

**Module1**

1. What is Cloud Computing? Explain its need.
2. Illustrate eras of computing.
3. Define the following terms in detail w.r.t Cloud Computing:
4. Distributed Computing
5. SOA
6. Shipping Data Centre
7. Ubiquitous Computing
8. ISA
9. Explain models for distributed and cloud computing.
10. How to build an Overlay network? What is the need for it.
11. We know that application is GPUs has seen a drastic rise. Why GPUs getting more prominence in recent times? Compare it with CPU architecture.
12. What are the constraints to be considered while developing distributed programs? Give an example of distributed algorithm.
13. Differentiate b/w loosely coupled and tightly systems.
14. Explain any 2 distributed environments in detail.
15. Describe various Cloud service models with example.
16. Describe various Cloud deployment models with example.
17. In current scenario energy conservation is the need of the hour. If you are asked to build an energy efficient Data Center, how do you build it? Explain various factors that affect Data Center maintenance cost.
18. Define Virtualization? Describe various operations of an VM.
19. Differentiate b/w VM and VMM.
20. Write short notes on: i) Cloud security ii) Challenges in Cloud.
21. What are Grid networks? Explain its design issues.
22. Compare and contrast HPC and HTC based systems.
23. Give a real-time example of a vendor giving PaaS service. Explain how that vendor provides

PaaS service

**Module 2**

1. What is Hypervisor? Explain various hypervisor types.
2. Differentiate b/w Full virtualization and Para virtualization.
3. Which are the popular virtualization levels? Justify your answer.
4. Explain various Virtualization levels in detail.
5. Illustrate h/w abstraction layer level virtualization with suitable example.
6. I want to achieve high performance. Suggest a suitable level of virtualization. Justify your answer.
7. Describe various concepts under Virtualization for Data centre virtualization.
8. I would like to build a private cloud for my organization with and intention to promote more open-source software. Suggest a suitable Cloud manager/operating system. Explian its working principle.
9. Illustrate vSphere4 with its architecture. Explain under what circumstances we can use vSphere4. Compare it with Eucalyptus.
10. What are the advantages of Live migration of an VM? Explain all the steps involved in VM Live migration.
11. What is Intrusion Detection System? How to apply it in virtualization of Data Centres. Explain different ways of implementing it.
12. Write short notes on Trust management.
13. Differentiate b/w Type1 and Type2 hypervisor.
14. Consider a scenario where your organization doesn’t want to take a risk of relying on a third party like- AWS/Azure due to privacy challenges. Suggest a suitable solution for this problem that protects the privacy of your clients/user.
15. Explain the working of VMWare workstation.
16. Illustrate Xen architecture in detail.
17. Compare and contrast Xen and KVM architectures for virtualization.

**Module 3**

1. Explain Cloud Service models in detail.
2. Compare any 4 IaaS service providers and their services.
3. Compare any 4 SaaS service providers and their services.
4. Compare any 4 PaaS service providers and their services.
5. Assuming AWS Web Services, explain any 2 services for each of the following:

IaaS, PaaS and SaaS.

1. Differentiate between Traditional computing and Cloud computing?
2. Explain various Cloud deployment models with suitable examples.
3. For what kind of organizations Private Cloud is very useful? Analyze the imitations of private cloud.
4. Explain Cloud reference architecture in detail.
5. Write short notes on Economics of Cloud.
6. Compare how AWS, Azure and GAE provides virtualized resources in compute, storage and network clouds.
7. Assume a situation where, a data center is affected to a greater extent due to heavy floods in a town. Analyze how Cloud computing with deal with Virtualization support and Disaster recovery in this scenario.
8. Write short notes on Google Cloud infrastructure.
9. Explain any 5 AWS service offerings and their need.
10. List out the Cloud Open Challenges. Explain.
11. Assume a Banking company is willing to host its application in Cloud to reduce its maintenance cost. Analyze the privacy and security issues to be faced by the Bank. Explain various security defence strategies that can be implemented using Cloud.

**Module 4**

1. What is Amazon additional services? Explain any 2 of them.
2. What is Amazon EC2? Explain its environment.
3. Describe various categories of Servives available on Amazon AWS.
4. What is OpenStack? Why it has become popular in recent years in the IT industry? Explain its future scope.
5. Explain various storage solutions available with AWS.
6. Explain the Architecture of GAE along with its core concepts.
7. Illustrate the steps in GAE application life cycle.
8. Illustrate Azure Architecture with the help of a need diagram.
9. Explain core concepts of Azure.
10. Compare the cost models of Azure, AWS & GAE.
11. What is AppFabric and what service does it provide?
12. Explain any storage services of Azure.
13. Take an example of any one CRM application hosted in Cloud. Explain its features and advantages.
14. How cloud can contribute to the Healthcare domain? Explain any one application with example.
15. During Corana pandemic, we were heavily dependent on the cloud-based Collaboration platforms like-GoggleMeet, Zoom and so on. Explain the relevance of such Applications in this post covid era.
16. What services can be offered by Microsoft Dynamics CRM? Explain how it can contribute to the business of a company.
17. Explain any 2 Business applications of Cloud.
18. Explain any 2 real-time scientific applications of Cloud.

**Module 5**

1. Write the steps involved to launch a Virtual machine using AWS.
2. Which is the service used to create VMs in AWS. Explain how EC2 is helpful for software companies to reduce their expenditure on software purchase and maintenance.
3. Write short notes on Cloud security risks. **pg274**
4. Define Privacy in cloud? How to assess the impact of Cloud privacy on the application? **pg279**
5. What are shared images? List out the security threats posed by shared images and explain. **pg289**
6. Write the procedure(steps) to host a simple webpage on AWS using IIS server.
7. When we use S3 Bucket? Compare S3 bucket with Google Drive.
8. Write the procedure to create a S3 bucket and to download the content saved in S3 Buckets.
9. Compare the advantages of Linux based EC2 instances over Windows based EC instances.
10. What are Cloud Firewalls? Explain its need. **pg319**