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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

TEST 1

Winter Semester: 2021 - 22

Course Code: CSE 233

Course Name: Cloud Computing and Services

Program & Sem: B.Tech & VI

Date:

Time:

Max Marks: 30

Weightage: 15%

Instructions:

(i) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer all the questions. Each question carries 2 marks. (4Qx 2.5M= 10M)

1. How is cloud computing related to distributed computing? **[2.5 M]** (C.O.No.1) [Knowledge]
2. What is virtualization? Mention its benefits. **[2.5 M]** (C.O.No.2) [Knowledge]
3. Mention the platforms which are used for large-scale Cloud computing?
[2.5 M] (C.O.No.1) [Knowledge]
4. Compare and contrast different techniques of virtualization. **[2.5 M]** (C.O.No.2) [Knowledge]

Part B [Thought Provoking Questions]

Answer all questions. Each question carries 5 marks. (2Qx5M=10M)

5 Docker is an open platform for developing, shipping, and running applications. Docker provides the ability to package and run an application in a loosely isolated environment called a container. In this context, explain how is Docker different from standard virtualization using VMs?

[5M] (CO.No.2) [Comprehensive]

6. Compare the three Cloud computing delivery models, SaaS, PaaS, and IaaS, from the point of view of the application developers and users.

[5M] (CO.No.1) [Comprehensive]

Part C [Problem Solving Questions]

Answer all the Questions. Each question carries 5 marks.

(2Qx5M=10M)

7. An organization debating whether to install a private Cloud or to use a public Cloud, e.g., the AWS, for its computational and storage needs, asks your advice. What information will you require to base your recommendation on?

[5M] (CO.No.1) [Analysis]

Q8. Do you believe that the homogeneity of a large-scale distributed systems is an advantage? Discuss the reasons for your answer. What aspects of hardware homogeneity are the most relevant in your view and why? What aspects of software homogeneity do you believe are the most relevant and why?

[5M] (CO.No.1) [Analysis]

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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

TEST 1

Winter Semester: 2021 - 22

Course Code: CSE 233

Course Name: Cloud Computing and Services

Program & Sem: B.Tech & VI Sem

Date: 26th April 2022

Time: 10:00 AM to 11:00 AM

Max Marks: 30

Weightage: 15 %

Instructions:

(ii) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer both the Questions. Each question carries FIVE marks. (2Qx 5M= 10M)

1. Summarize the characteristics of cloud computing [5M] (C.O.No.1) [Knowledge]
2. Explain the evolution of distributed computing. [5M] (C.O.No.1) [Knowledge]

Part B [Thought Provoking Questions]

Answer both the Questions. Each question carries FIVE marks. (2Qx5M=10M)

3. A university needs storage services for many types of information storage. They want to store the sensitive information like question papers by using cloud services before exam and some non-sensitive information like syllabus and course structure using cloud services. So the university should use which types of cloud and why? Explain these types of clouds in brief.

[5M](C.O.No.1) [Knowledge]

4. Cloud is very beneficial nowadays for various types of business as it provides services in much cheaper cost than buying the resources by those organization. Cloud is able to serve huge number of consumers but it doesn't buy such huge number of resources. So, which technology is used by cloud to serve huge number of consumers with dynamic scaling? Explain the technology in detail with diagram and explain how it is useful in scaling.

[5M] (C.O.No.2) [Comprehension]

Part C [Problem Solving Questions]

Answer both the Questions. Each question carries FIVE marks. (2Qx5M=10M)

5. A start-up company named Zen Info Tech Solutions is started, they got the project from a company for making one software. Since it is start up, they can't afford to buy any resource for the development of software. So they decided to take services from cloud as rent. What are the different types of services needed by company? Explain the services in brief.

[5M] (C.O.No. 1) [Knowledge]

6. The most important benefit cloud can achieve is by emulating computer hardware because it reduces cost a lot. What is this virtualization called? Demonstrate this type of virtualization using diagram. [5M] (C.O.No. 2) [Comprehension]
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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

TEST 2

Winter Semester: 2021 - 22

Course Code: CSE 233

Course Name: Cloud Computing and Services

Program & Sem: BTech VI Sem

Date: 1st June 2022

Time: 10:00 AM to 11:00 AM

Max Marks: 30

Weightage: 15 %

Instructions:

(iii) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer both the Questions. Each question carries FIVE marks.

(2Qx 5M= 10M)

1. Can cluster management be done when working with virtualization? In what situation can virtualization result in better resource management? **[5M] (C.O.No.2) [Knowledge]**
2. How to achieve Hardware-assisted virtualization in VMware Workstation? Mention with a technology example. **[5M] (C.O.No.2) [Knowledge]**

Part B [Thought Provoking Questions]

Answer both the Questions. Each question carries FIVE marks.

(2Qx5M=10M)

3. Imagine that you are running a website (TicketOnline) using cloud based service that is subject to wide fluctuations in demand, such as ticket-selling system for events. During peak season, TicketOnline suffers from heavy traffic that causes slow response time. In peak season, the traffic may reach five to seven times more than off-peak season. Due to this heavy load processing, sometimes your host system crashes and not able to serve the user's request. Recognize the above mentioned issue and decide to make some improvements to bring better competitive advantages to your company. **[5M] (C.O.No.2) [Comprehension]**
4. Cloud Computing is different from outsourcing and provision of application services. How to measure and achieve the delivery ability of a SaaS service providers to ensure security practices? Explain with an example SaaS application. **[5M] (C.O.No.3) [Comprehension]**

Part C [Problem Solving Questions]

Answer both the Questions. Each question carries FIVE marks.

(2Qx5M=10M)

7. A software company has recently launched a data center in North Bangalore to support and manage software based EduTech application service. With their development team, they ready to utilize para / full virtualization using hardware-assisted virtualization. How can they access all their education material resources in their on-premises setup? Also suggest which hypervisor-based approach is more suitable for their organization? Justify your answers.

[5M] (C.O.No. 2) [Application]

8. Most of organization's highest concern is its data and information privacy. Imagine that you are leading the Information Security department in your organization and have to directly report to the CEO. They are planning for cloud migration then prior to going live requested your unit to perform vulnerability assessment. So, wearing the hat as IT and Information Security Lead, suggest what are the recommended steps to go through? As a cloud service provider, how do you deal with it?

[5M] (C.O.No. 2) [Application]



**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

END TERM EXAMINATION

Winter Semester: 2021 - 22

Course Code: CSE 233

Course Name: Cloud Computing and Services

Program & Sem: B.Tech & VI Sem

Date: 29th June 2022

Time: 09:30 AM to 12:30 PM

Max Marks: 100

Weightage: 50%

Instructions:

(iv) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries FIVE marks. (8Qx 5M= 40M)

1. What are the types of services available in cloud computing? Explain them in details.
(C.O. No.1) [Knowledge level]
2. What is the role of Docker in DevOps operation? (C.O.No.1) [Knowledge level]
3. Discuss the different deployment models of cloud computing with its benefits?
(C.O.No.1) [Knowledge level]
4. Explain the core technologies that influence the cloud computing.
(C.O.No.1) [Knowledge level]
5. What is the function of Hypervisor in cloud solution? Explain.
(C.O.No.2) [Comprehension level]
6. Explain the hardware level virtualization with reference to XEN Hypervisor.
(C.O.No.2) [Comprehension level]
7. Briefly summarize the challenges still open in cloud computing?
(C.O.No.2) [Comprehension level]
8. List out the advantages of Virtualization technique in cloud?
(C.O.No.2) [Comprehension level]

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries SEVEN marks. (4Qx7M=28M)

9. Cloud vendors are organization that set up public clouds and private clouds or offers on-request cloud computing services. Cloud security is the shared responsibility of vendors and customers. Mention the security issues specified by Gartner for Cloud Computing vendor.
(C.O.No.3) [Comprehension level]
10. When internal IT deploys a new application, they work closely with end users to make sure everything is working. They track application success by emails and phone calls, and if there is a problem they get on the phone with the vendor to solve it. However, it doesn't work like that with a business customer and their cloud provider. What customers will do

to make good-faith negotiated agreements with providers? State the answer.

(C.O.No.3) [Comprehension level]

11. A Web services are self-contained, modular and distributed applications that can be described and published over the network. They enables communication among various applications by using open standards. Write a short notes on REST and SOAP open standard protocols for Web services. (C.O.No.3) [Comprehension level]

12. HTTP is the foundation for data communication for the World Wide Web. Explain the popular methods of HTTP that defines the operation that client wants to perform.

(C.O.No.3) [Comprehension level]

Part C [Problem Solving Questions]

Answer all the Questions. Each question carries EIGHT marks.

(4Qx8M=32M)

13. Modern applications are built with a combination of new architecture patterns, operational models, and software delivery processes. They scale up and down from zero to millions of users, manage terabytes (if not petabytes) of data, are available globally, and respond in milliseconds. Modernization is not just about applications; it requires a modern infrastructure that provides flexible operations framework. How do you simplify your business operations and overall engineering practices by considering the popular IaaS service provider? Justify (C.O.No.4) [Application level]

14. Cloud computing is a model of on-demand rent of computer system resources from a professional service provider. The service provider owns an amount of computer system resources enough to cause scale effects. Each customer uses resources of a required volume, usually much lower than required for economies of scale. There is a great number of cloud service providers (CSP) globally and choosing the right cloud service provider could be really challenging. Guide Mr John to compare and choose a suitable cloud service provider for his startup company. (C.O.No.4) [Application level]

15. Developers can build and deploy apps quickly using popular languages or bring their own language runtimes and frameworks, they can also manage resources from the command line, debug source code, and run API back ends easily. Which cloud platform removes many of the system administration and development challenges of building applications to scale to hundreds of requests per second and beyond? Explain.

(C.O.No.4) [Application level]

16. A .Net based framework provides a runtime environment and a rich set of APIs to allow developers to build the business logic of applications by using preferred programming abstractions which leverage their computation on either public or private clouds and desktops. Draw an architecture of the framework & explain in details.

(C.O.No.4) [Application level]
