PAPER ID-310846

Roll No:

BTECH
(SEM V) THEORY EXAMINATION 2025-26
CLOUD COMPUTING

TIME: 3 HRS   **M.MARKS: 70**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   Attempt *all* questions in brief.   **2 x 7 = 14**

Q no.	Question	CO	Level
a.	Define on-demand provisioning.	1	K1
b.	List any one cloud service provider.	1	K1
c.	Define Service Oriented Architecture (SOA).	2	K2
d.	Explain the term Systems of Systems (SoS) briefly.	2	K2
e.	Expand IaaS, PaaS, and SaaS.	3	K2
f.	State two cloud security challenges.	4	K1
g.	Define OpenStack.	5	K1

SECTION B

2.   Attempt any *three* of the following: **7 x 3 = 21**

a.	Explain underlying principles of parallel and distributed computing and their importance in cloud computing.	1	K2
b.	Assess the role of virtualization tools and mechanisms in efficient resource management.	2	K2
c.	Describe the NIST Cloud Computing Reference Architecture and its components.	3	K2
d.	Discuss Software-as-a-Service (SaaS) security issues and protection mechanisms.	4	K2
e.	Discuss the role of VirtualBox in cloud development and testing.	5	K2

SECTION C

3.   Attempt any *one* part of the following: **7 x 1 = 7**

a.	Discuss benefits and challenges of cloud computing.	1	K3
b.	Describe on-demand provisioning and its role in cloud services.	1	K3

4.   Attempt any *one* part of the following: **7 x 1 = 7**

a.	Describe REST-based web services and explain their architectural principles.	2	K2
b.	Discuss the basics of virtualization and explain how it enables cloud services.	2	K3

5.   Attempt any *one* part of the following: **7 x 1 = 7**

a.	Compare different cloud deployment models based on security, scalability, and cost.	3	K2
b.	Explain the layered cloud architecture design with a neat diagram.	3	K2

6.   Attempt any *one* part of the following: **7 x 1 = 7**

a.	Evaluate the effectiveness of IAM mechanisms in securing cloud resources.	4	K4

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b.	Explain inter-cloud resource management and its significance in cloud computing.	4	K3

7.	**Attempt any *one* part of the following:**		**7 x 1 = 7**
a.	Explain the architecture of Hadoop and the working of MapReduce with a neat diagram.	5	K2
b.	Describe Google App Engine and explain its programming environment.	5	K2