Roll No: | | | | | | | | | | |

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

TIME: 3 HRS

M.MARKS: 70

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt *all* questions in brief. 02 x 7 = 14

Q no.	Question	CO	Level
a.	Define cloud computing and explain why elasticity is a key feature in modern cloud platforms.	1	K2
b.	What is on-demand provisioning and how does it benefit cloud users?	1	K2
c.	Explain virtualization and mention one real-life benefit of using virtual machines.	2	K2
d.	What is Service Oriented Architecture (SOA) and why is it important in cloud services?	3	K2
e.	Define IaaS with one practical example from industry.	3	K2
f.	What is cloud storage and how is it different from traditional storage systems?	4	K2
g.	What is Hadoop and why is it considered suitable for big data processing?	5	K2

SECTION B

2. Attempt any *three* of the following: 07 x 3 = 21

a.	Explain the evolution of cloud computing and its relationship with distributed computing.	1	K2
b.	Describe types of virtualization and explain how CPU virtualization is achieved.	2	K3
c.	Explain SaaS, PaaS and IaaS with suitable use-case based examples.	3	K3
d.	Discuss cloud storage architecture and advantages of Storage-as-a-Service.	4	K3
e.	Explain MapReduce programming model and its role in Hadoop ecosystem.	5	K3

SECTION C

3. Attempt any *one* part of the following: 07 x 1 = 07

a.	Explain NIST cloud reference architecture and its significance in standardization.	1	K3
b.	Explain REST-based web services and their role in cloud applications.	3	K3

4. Attempt any *one* part of the following: 07 x 1 = 07

a.	Explain inter-cloud resource management and challenges in global resource sharing.	4	K3
b.	Describe security challenges in cloud computing with suitable examples.	4	K3

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5. Attempt any *one* part of the following: 07 x 1 = 07

a.	Explain IAM and its importance in securing cloud-based systems.	4	K3
b.	Explain VM security issues and preventive measures in cloud environments.	4	K3

6. Attempt any *one* part of the following: 07 x 1 = 07

a.	Explain Google App Engine architecture and its programming environment.	5	K3
b.	Describe OpenStack architecture and its role in private cloud deployment.	5	K3

7. Attempt any *one* part of the following: 07 x 1 = 07

a.	Explain federation in cloud computing and its four levels.	5	K3
b.	Discuss future trends and challenges in cloud federation.	5	K3

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