Q. Code: 948553

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2024

Seventh Semester

IT18703 - CLOUD COMPUTING

(Information Technology)

(Regulation 2018/2018A)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Interpret various cloud service models and deployment models.	**2**
CO 2	Identify programming models for Virtualization.	**4**
CO 3	Explore the different Cloud Infrastructure Mechanisms.	**4**
CO 4	Analyze Big data scenario using HDFS.	**4**
CO 5	Implement and Evaluate Cloud Software Environment tools.	**5**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Define Cyber physical systems.	**1**	**1**
2.	How to choose the optimal checkpoint interval and identify the parameters between two checkpoints?	**1**	**1**
3.	Investigate why OS-Level Virtualization is needed?	**2**	**4**
4.	Draw the diagram of Eucalyptus for building private clouds by establishing virtual networks over the VMs linking through Ethernet and the Internet.	**2**	**3**
5.	Identify the common logical units of Cloud storage device mechanisms.	**3**	**4**
6.	Examine the role of audit monitor.	**3**	**4**
7.	What is a JobTracker? How many instances of JobTracker run on a Hadoop Cluster?	**4**	**1**
8.	Draw the HDFS architecture.	**4**	**3**
9.	Compare and contrast Nimbus and OpenNebula.	**5**	**4**
10.	Identify the key features of object storage in open stack.	**5**	**4**

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Discuss the system models for distributed computing with neat illustrations	**(14)**	**1**	**1**
	(OR)			
(b)	Describe stage-by-stage evolution of cloud with neat sketch and discuss any three benefits, drawbacks achieved by it in the banking and insurance sectors.	**(14)**	**1**	**1**

12. (a)	**(i)**	Analyze the performance of Xen live migration for I/O read-intensive applications. The performance merits should include the time consumed by the precopy phase, the downtime, the time used by the pull phase, and the total migration time.	**(10)**	**2**	**4**
	(ii)	Identify the side effects of server consolidation in Data Centers.	**(4)**	**2**	**4**
		(OR)			
(b)	**(i)**	Assess the differences between hypervisor and para-virtualization and give one example VMM (virtual machine monitor), that was built in each of the two categories.	**(10)**	**2**	**4**
	(ii)	Differentiate between physical and virtual clusters.	**(4)**	**2**	**4**
13. (a)		Examine the structure of inter-cloud resource management and explain why two or more clouds need to interact with each other. Provide an example for the same.	**(14)**	**3**	**4**
		(OR)			
(b)		Consider a scenario that illustrates a remote administration system and usage of self-service portals to configure an already leased virtual server to prepare it for hosting. Investigate how Tasks that can commonly be performed by cloud consumers via a remote administration console with suitable diagrams.	**(14)**	**3**	**4**
14. (a)		Investigate in detail the segregation roles carried out by IAM when Services of multiple organizations are maintained within the same geographical location.	**(14)**	**4**	**4**
		(OR)			
(b)		Explore how Map Reduce framework supports parallel and distributed computing on large data sets with a suitable example.	**(14)**	**4**	**4**
15. (a)		Evaluate the performance of IaaS, PaaS and SaaS with a Neat sketch and Illustrate the merits and demerits of all these Services in detail.	**(14)**	**5**	**5**
		(OR)			
(b)		Assess the working principles and functionalities of Sector and Sphere	**(14)**	**5**	**5**

PART- C (1 x 10 = 10 Marks)
(Q.No.16 is compulsory)

			Marks	CO	RBT LEVEL
16.		Write a case study on how to secure government websites using single sign on(SSO) or Public key infrastructure(PKI) .Illustrate with a neat sketch.	**(10)**	**4**	**3**

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