

Name of the Program: BTech(CSE)

Name of the Paper: Virtualization and Cloud Computing

Time: 3 Hours

Semester: 4  
Course Code: ICS-451  
Maximum Marks: 100

**Note:**

- (i) All questions are compulsory.
- (ii) Answer any two sub-sections among a, b, and c in each main question.
- (iii) Total marks in each main question are twenty.
- (iv) Each question carries ten marks.

<b>Q.1</b>	<b>(10 X 2 = 20 Marks)</b>	
(a)	Differentiate between Cluster and Grid computing.	CO-1
(b)	Explain Public, Private and Hybrid Cloud in detail.	
(c)	Discuss about the different stakeholders in cloud computing.	
<b>Q.2</b>	<b>(10 X 2 = 20 Marks)</b>	
(a)	Discuss Amazon Web services.	CO-2
(b)	Founded in 1891, Philips is a leading health technology company focused on improving people's health and enabling better patient outcomes. As an early adopter of Amazon Web Services (AWS), Philips relies on dozens of AWS services to power the Philips HealthSuite Platform. The platform helps customers improve their efficiency and delivery quality with services that include connections to clinical-grade smart devices, a built-in framework to ingest, manage, and analyze healthcare data, and more. AWS provides Philips and its customers with scalable, cost-effective, regulatory and HIPAA- compliant solutions. From the cloud to the edge, Philips speeds innovation, simplifies security and compliance, and increases efficiency in delivering innovative healthcare solutions by building on AWS. Analyze the benefits of Microsoft Azure, AWS, Google app engine, and, salesforce.com in the perspective of Philips.	
(c)	An IT company decides to provide free access to a public cloud dedicated to higher education. Which one of the three cloud computing delivery models, SaaS, PaaS, or IaaS, should it embrace, and why? Analyze cloud computing services models with their advantages.	
<b>Q.3</b>	<b>(10 X 2 = 20 Marks)</b>	
(a)	Explain Green Cloud Computing Architecture.	CO-3
(b)	Discuss Reference Model for MOCC. What do you understand by Market-Oriented Cloud Computing?	
(c)	Wynk Music reduces computing costs by 60 percent and simplifies analytics by running its big data framework on the cloud. As part of Bharti Airtel Limited's digital portfolio in India. Wynk Music is an audio streaming app and website with 72 million monthly active users. The company uses cloud and virtualization as its big data platform. Analyze the pros and cons of virtualization technology from the perspective of Wynk Music	
<b>Q.4</b>	<b>(10 X 2 = 20 Marks)</b>	
(a)	Discuss Cloud Management in detail.	CO-4
(b)	What is the importance of SLAs in cloud computing? Discuss Billing and Accounting aspects of cloud computing.	
(c)	Australian telecommunications provider, Telstra, needed to expand its live streaming service to meet high demand during the cricket season. By using the cloud service provider,	

	Telstra can scale and improve capacity to support 10,000 simultaneous live streams. Analyze the Service load balancing architecture from the perspective of Telstra with the suitable case study.	
<b>Q.5</b>		<b>(10 X 2 = 20 Marks)</b>
(a)	Discuss the role of Cloud computing in IOT and Machine Learning.	<b>CO-5</b>
(b)	What is GitHub? Discuss how to create and use Github Repository.	
(c)	What kind of needs are addressed by Heterogeneous Clouds? Discuss.	