



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Syllabus for Bachelor of Vocation (B.Voc.), 6<sup>th</sup> Semester**  
**Branch: Information Technology**  
**Subject Name: Cloud Computing Lab**  
**Subject Code: 1160505**

**Type of Course:** Core.

**Prerequisites:** J2EE.

**Rationale:** This course aims students to understand the hardware, software concepts and architecture of cloud computing. Students realize the importance of Cloud Virtualization, Abstractions and Enabling Technologies.

**Teaching and Examination Scheme:**

Teaching Scheme			Credit C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA(M)	ESE(V)	PA(I)	
0	0	4	2	0	0	30	20	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE-End Semester Examination; PA- Progressive Assessment

**SUGGESTED PRACTICAL EXERCISES**

The following practical outcomes) PrOs (are the subcomponents of the COs .These PrOs need to be attained to achieve the COs.

Sr. No.	Practical Outcomes (PrOs)	Approx. Hrs. required
1	To study cloud architecture and cloud computing model.	8
2	<b>Study and implementation of Infrastructure as a Service</b> <ul style="list-style-type: none"> <li>• OpenStack Computing Components</li> <li>• Install OpenStack on Ubuntu 18.04 with DevStack</li> </ul>	8
3	Study and implementation of Storage as a Service	8
4	<b>Case Study: "Choosing the Right Cloud Deployment Model"</b> <ul style="list-style-type: none"> <li>• Examine case studies of organizations adopting different cloud deployment models (public, private, hybrid, community).</li> <li>• Analyze the advantages and disadvantages of each model.</li> <li>• Discuss key drivers influencing the choice of a specific cloud deployment model.</li> </ul>	8
5	<b>Case Study: "Comparative Analysis of Cloud Service Providers"</b> <ul style="list-style-type: none"> <li>• Evaluate case studies of major cloud service providers (e.g., AWS, Azure, Google Cloud).</li> <li>• Analyze their service models (SaaS, PaaS, IaaS) and advantages/disadvantages.</li> <li>• Discuss the impact of cloud computing on users using real-world examples.</li> </ul>	8
6	Working and installation of Google App Engine Eclipse/Netbeans.	8
7	Develop a hello world program web application and deploy it on the Google app engine.	8
<b>Total</b>		<b>56</b>



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**List of Software/Learning Websites**

1. <https://www.tutorialspoint.com>
2. <https://www.geeksforgeeks.org>
3. <https://www.w3schools.com>

**Course Outcomes:**

Sr. No.	Sample Performance Indicators for the PrOs	%Weightage
CO-1	Describe basic concepts of Cloud Computing and its applications.	15
CO-2	Describe cloud computing architecture and various cloud deployment models.	25
CO-3	Describe various cloud service models and identify major cloud service providers.	20
CO-4	Understand the introduction and working of virtualization, its types, advantages, and disadvantages.	25
CO-5	Identify and address security and privacy issues in cloud computing.	15