

Cloud Computing

Course Code	20CS4701C	Year	IV	Semester	I
Course Category	PEC	Branch	CSE	Course Type	Theory
Credits	3	L-T-P	3-0-0	Prerequisites	Computer Networks, Operating Systems
Continuous Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes**Upon Successful completion of course, the student will be able to**

CO1	Understand the basic concepts of virtualization and Cloud Computing.	L2
CO2	Apply cloud computing framework to build and deploy customized applications	L3
CO3	Analyze the given application and choose suitable platform for deploying cloud.	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	√													
CO2														√
CO3		√							√	√				

Syllabus		
Unit No	Contents	Mapped CO
I	Introduction to Cloud: Cloud Computing at a Glance, The Vision of Cloud Computing, Defining a Cloud, A Closer Look, Cloud Computing Reference Model, Characteristics and Benefits. Virtualization: Introduction, Characteristics of Virtualized Environment, Taxonomy of Virtualization Techniques, Virtualization and Cloud computing, Pros and Cons of Virtualization, Technology Examples- VMware and Microsoft Hyper-V.	CO1
II	Cloud Computing Architecture : Introduction, Cloud Reference Model, Architecture, Infrastructure / Hardware as a Service, Platform as a Service, Software as a Service, Types of Clouds, Public Clouds, Private Clouds, Hybrid Clouds, Community Clouds.	CO1,CO2,CO3
III	Aneka: Cloud Application Platform Framework Overview, Anatomy of the Aneka Container, From the Ground Up: Platform Abstraction Layer, Fabric Services, Foundation Services, Application Services, Building Aneka Clouds, Infrastructure Organization, Logical Organization, Private Cloud Deployment Mode, Public Cloud Deployment Mode, Hybrid Cloud Deployment Mode.	CO1,CO2,CO3
IV	Cloud Applications: Scientific Applications – Health care, Geoscience and Biology. Business and Consumer Applications- CRM and ERP, Social Networking, Media Applications and Multiplayer Online Gaming.	CO1,CO3
V	Cloud Platforms in Industry: Amazon Web Services- Compute Services, Storage Services, Communication Services and Additional Services. Google App Engine-Architecture and Core Concepts, Application Life-Cycle, cost model. Microsoft Azure- Azure Core Concepts, SQL Azure.	CO1,CO3

Learning Resources

Text Books

1. Mastering Cloud Computing, Rajkumar Buyya, Christian Vecchiola, S.Thamarai Selvi, 2013, TMH.

References

1. Cloud Computing Principles and Paradigms, Rajkumar Buyya , James Broberg, Andrzej Goscinski, Wiley Publishing.
2. Cloud Application Architectures, George Reese , First Edition, O'Reilly, Media 2009.
3. Cloud Computing – web based Applications that change the way you work and collaborate Online, Micheal Miller, Pearson Education.

e-Resources and other Digital Material

1. <http://www.slideshare.net/himanshuawasthi2109/cloud-computing-ppt-16240131>
2. <https://nptel.ac.in/courses/106105167>
3. https://www.youtube.com/watch?v=r8Lu_BjxlZc
4. <http://video.mit.edu/watch/mitef-nyc-cloud-computing-8347/>