AURO UNIVERSITY
(INDIA)

The School of Information Technology

Program Handbook

Online Short-Term Certificate
in
Cloud Computing

Module Leader
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Course objectives:

1. To learn and discuss A comprehensive understanding of Cloud Computing
2. To discuss why it is a technological and business game changer
3. To know the physical and virtual cloud architecture
4. To learn how to use Cloud Services.
5. To implement Virtualization
6. To identify some advantages of leveraging the cloud.

Course Outcomes:

1. Articulate the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for state-of-the-art cloud computing
2. Identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.
3. Explain the core issues of cloud computing such as security, privacy, and interoperability
4. Explain the different services related to cloud
5. Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms.
6. Provide the appropriate cloud computing solutions and recommendations according to the applications used.

Syllabus:

Unit-I: What is the cloud Anyway

History of Cloud Computing, Cloud service providers Properties, Characteristics & Disadvantages Pros and Cons of Cloud Computing, Benefits of Cloud Computing, Types of Cloud services: Software as a Service-Platform as a Service –Infrastructure as a Service - Database as a Service

Unit-II: Cloud services, management and Virtualization

Monitoring as a Service –Communication as services, Resiliency, Provisioning, Asset management, Concepts of Map reduce, Cloud Governance, High Availability and Disaster Recovery. Virtualization: Fundamental concepts of compute storage, networking, desktop and application virtualization, Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization

Unit-III: Understanding Cloud Security:

Security in Clouds: Cloud security challenges – Software as a Service Security, Common Standards: The Open Cloud Consortium – The Distributed management Task Force – Standards for application Developers – Standards for Messaging – Standards for Security.

Couse Plan:

Day	Topics	Duration	Assessment
1	History of Cloud Computing, Cloud service providers Properties, Characteristics & Disadvantages Pros and Cons of Cloud Computing, Benefits of Cloud Computing	1:30	**MCQ QUIZ**
2	Types of Cloud services: Software as a Service- Platform as a Service – Infrastructure as a Service - Database as a Service	1:30	
3	Monitoring as a Service – Communication as services, Resiliency, Provisioning, Asset management	1:30	**MCQ QUIZ**
4	Concepts of Map reduce, Cloud Governance, High Availability and Disaster Recovery. Virtualization: Fundamental concepts of compute storage, networking, desktop and application virtualization, Need for Virtualization – Pros and cons of Virtualization – Types of Virtualization	1:30	
5	Security in Clouds: Cloud security challenges – Software as a Service Security	1:30	**MCQ QUIZ**
6	Common Standards: The Open Cloud Consortium – The Distributed management Task Force – Standards for application Developers – Standards for Messaging – Standards for Security.	1:30	
7	Research areas in cloud	1 hour	