



CS-568

CLOUD COMPUTING

UNIT-I

The Evolution of Cloud Computing: Hardware Evolution, Internet Software Evolution, Establishing a Common Protocol for Internet, Evolution of IPv6, Finding a common method to Communicate Using the Internet Protocol, Building a Common Interface to the Internet.

Cloud Formations: From One Computer to the Grid of Many, Server Virtualization, Parallel Processing, Symmetric Multiprocessing Systems, Massively Parallel Processing Systems.

UNIT II

Web services and the cloud: Communication-as-a-Service(CaaS), Infrastructure-as-a-Service(IaaS), Monitoring-as-a-Service(MaaS), Platform-as-a-Service(PaaS), Software-as-a-Service(SaaS)

Building Cloud Networks: The Evolution from the MSP Model to cloud, Computing and Software-as-a-Service, The cloud Center, Collaboration i. Service-Oriented Architectures as a Step Toward Cloud Computing, Basic Approach to a Data Center-Based SOA The Role of Open Source Software in Data Centers, Where Open Source Software Case Studies: Amazon web services, Google App Engine.

UNIT III

Virtualization: Introduction, types and technologies, Accomplishing Virtualization, importance of virtualization in Cloud Computing,

Case studies: Xen Virtual machine monitor-Xen API, VMware- VMware products- VMware Features, Microsoft Virtual Server-Features of Microsoft Virtual server

UNIT IV

Federation in the Cloud, Presence in the Cloud I Privacy and Its Relation to Cloud-Based Information System. Cloud Security Challenges I Software-as-a-Service Security I Security-as-a-Service, the New MSSP.

UNIT V

Common Standards in Cloud Computing: The Open Cloud Consortium, The Distributed Management Task Force, Standards of Application Developers I Standards for messaging, Internet Messaging Access.

Protocol(IMAP) I Standards for Security.

Examples of End-User Access to Cloud Computing.

Mobile Internet Devices and the Cloud: Mobile Operating Systems for Smartphones.

Mobile Platform Virtualization I Collaboration Applications for Mobile Platforms.

Suggested Reading:

1. John W. Rittinghouse, “*Cloud Computing: Implementation, Management, and Security*”, James F. Ransome, CRC Press 2009.
2. Virtualization Specialist level complete Certification kit-Study guide from www.theartofservice.org
3. William von Hagen, “*ProfessionalXen Virtualization*”, Wrox Publications, January, 2008.
4. Chris Wolf, Erik M. Halter, “*Virtualization: From the Desktop to the Enterprise*”, Apress, 2005.
5. David Marshall, Wade A. Reynolds. “*Advanced Server Virtualization: VMware and Microsoft Platform in Virtual Data Center*”, Auerbach Publications, 2006.