

UNIT I

Chapter 1 : Fundamentals of Cloud Computing 1-1 to 1-46

Syllabus : Origins and Influences, Basic Concepts and Terminology, Goals and Benefits, Risks and Challenges, Roles and Boundaries, Cloud Characteristics, Cloud Delivery Models, Cloud Deployment Models, Federated Cloud/Intercloud, Types of Clouds.

Cloud-Enabling Technology : Broadband Networks and Internet Architecture, Data Center Technology, Virtualization Technology, Web Technology, Multitenant Technology, Service Technology.

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UNIT II

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Syllabus : Implementation Levels of Virtualization, Virtualization Structures/Tools and Mechanisms, Types of Hypervisors, Virtualization of CPU, Memory, and I/O Devices, Virtual Clusters and Resource Management, Virtualization for Data-Center Automation.

Common Standards : The Open Cloud Consortium, Open Virtualization Format, Standards for Application Developers: Browsers (Ajax), Data (XML, JSON), Solution Stacks (LAMP and LAPP), Syndication (Atom, Atom Publishing Protocol, and RSS), Standards for Security.

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UNIT III

Chapter 3 : Cloud Programming, Environments and Applications

3-1 to 3-29

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Applications : Moving application to cloud, Microsoft Cloud Services, Google Cloud Applications, Amazon Cloud Services, Cloud Applications (Social Networking, E-mail, Office Services, Google Apps, Customer Relationship Management).

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UNIT IV

Chapter 4 : Cloud Security and Issues

4-1 to 4-33

Syllabus : Basic Terms and Concepts, Threat Agents, Cloud Security Threats and Attacks, Additional Considerations.

Cloud Security Mechanisms : Encryption, Hashing, Digital Signature, Public Key Infrastructure (PKI), Identity and Access Management (IAM), Single Sign-On (SSO), Hardened Virtual Server Images.

Cloud Issues : Stability, Partner Quality, Longevity, Business Continuity, Service-Level Agreements, Agreeing on the Service of Clouds, Solving Problems, Quality of Service, Regulatory Issues and Accountability.

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UNIT V

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5-1 to 5-27

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UNIT VI

Chapter 6 : Future of Cloud Computing

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Docker at a Glance : Process Simplification, Broad Support and Adoption, Architecture, Getting the Most from Docker, The Docker Workflow.

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