CSE423:VIRTUALIZATION AND CLOUD COMPUTING

L:3 T:0 P:0 Credits:3

Course Outcomes: Through this course students should be able to

- analyze the fundamentals of Cloud Computing technologies and applications
- examine the emerging area of cloud computing and how it relates to traditional models of computing.
- define cloud computing characteristics and service attributes, for compliance with enterprise objectives

Unit I

Virtualization techniques : virtualization technology, overview of x86 virtualization, types of virtualization, virtualization products, cloud interoperability standards, concept of VLAN ,VSAN and benefits

Virtualized environment : characteristics of virtualized environment, taxonomy of virtualization techniques, pros and cons of virtualization, virtualization and cloud computing

Unit II

Introduction to Cloud Computing : Cloud Computing in a Nutshell, Roots of Cloud Computing., Defining Cloud Computing, Examining the Characteristics of Cloud Computing, cloud types

Examining the Value Proposition : measuring the cloud's value, avoiding capital expenditures, computing the total cost of ownership, specifying service level agreements, defining licensing model

Unit III

Understanding cloud architecture : exploring the cloud computing stack, connecting to cloud

Understanding services and applications by type : infrastructure as a service, platform as a service, software as a service, identity as a service, compliance as a service

Unit IV

Using Platforms : Capacity Planning, Exploring Platform as a Service

Exploring Cloud Infrastructures : Managing the Cloud, Understanding Cloud Security

Unit V

Using media and streaming : understanding the streaming process, audio streaming, working with VoIP applications, video streaming, content delivery network

Working with cloud based storage : measuring the digital universe, provisioning cloud storage, exploring backup plan solutions

Unit VI

Understanding Services and Applications : Understanding Service Oriented Architecture, Moving Applications to the Cloud, Open Source Private Cloud Software

Cloud applications : using smartphones with the cloud, Compute Services, Storage Services, Database Services, Application Services, Content Delivery Services, Analytics Services, Deployment & Management Services, Identity & Access Management Services

Text Books:

1. CLOUD COMPUTING BIBLE by BARRIE SOSINSKY, WILEY

References:

1. CLOUD COMPUTING (FUNDAMENTALS,INDUSTRY APPROACH AND TRENDS by RISHABH SHARMA, WILEY

2. MASTERING CLOUD COMPUTING by RAJKUMAR BUYYA,CHRISTIAN VECCHIOLA ,S.THAMARAI SELVI, MCGRAW HILL EDUCATION