

PIT5H001 CLOUD COMPUTING

Module 1

Evolution of Computing Paradigms - Overview of Existing Hosting Platforms, Grid Computing, Utility Computing, Autonomic Computing, Dynamic Datacenter Alliance, Hosting / Outsourcing, Introduction to Cloud Computing, Workload Patterns for the Cloud, "Big Data", IT as a Service, Technology Behind Cloud Computing,

Module 2

A Classification of Cloud Implementations- Amazon Web Services - IaaS, The Elastic Compute Cloud (EC2), The Simple Storage Service (S3), The Simple Queuing Services (SQS), VMware vCloud - IaaS, vCloud Express, Google AppEngine - PaaS, The Java Runtime Environment,

Module 3

The Python Runtime Environment- The Datastore, Development Workflow, Windows Azure Platform - PaaS, Windows Azure, SQL Azure, Windows Azure AppFabric, Salesforce.com - SaaS / PaaS, Force.com, Force Database - the persistency layer, Data Security, Microsoft Office Live - SaaS, LiveMesh.com, Google Apps - SaaS, A Comparison of Cloud Computing Platforms, Common Building Blocks.

Module 4

Cloud Security – Infrastructure security – Data security – Identity and access management Privacy- Audit and Compliance.

Text Book:

1. Kai Hwang, Geoffrey C. Fox and Jack J. Dongarra, "Distributed and Cloud Computing from Parallel Processing to the Internet of Things", Morgan Kaufmann, Elsevier, 2012

Reference Books

1. Barrie Sosinsky, "Cloud Computing Bible" John Wiley & Sons, 2010
2. Tim Mather, Subra Kumaraswamy, and Shahed Latif, "Cloud Security and Privacy An Enterprise Perspective on Risks and Compliance", O'Reilly 2009