



## **Cloud Computing**

### **Duration- 2 Months**

#### **Introduction**

**Cloud computing definition**

**Reference model**

**Characteristics**

**Benefits**

**Challenges**

**Distributed Systems**

**Virtualization,**

**Service-oriented computing**

**Utility-oriented computing**

**Overview on computing platforms & technologies**

- AWS
- Google AppEngine
- MS Azure
- Hadoop
- salesforce.com
- Manjrasoft Aneka

#### **Parallel & Distributed Computing**

**Parallel vs. Distributed computing**

**Elements of parallel computing**

**Parallel processing - hardware architecture & approaches**

**Concept & Component of Distributed Computing**

**RPC, Service-oriented computing**

#### **Virtualization**

**Cloud reference model – IaaS, PaaS, SaaS**

**Types of clouds – Public, Private, Hybrid, Community**

**Cloud interoperability & standards scalability & fault tolerance, Security, trust & privacy**

#### **Concurrent Computing**

**High-throughput Computing and Data-Intensive Computing**

**Programming applications with Threads**

**Thread API**

**Parallel computation with Threads**

**Task computing**

**Frameworks for Task computing**

**Task-based application model**

**Data-intensive computing, characteristics, technology**

#### **Cloud Platforms and Applications**

- Overview on Amazon Web Services
- Google AppEngine and Microsoft Azure
- Cloud applications in scientific, business and consumer Domain