

**Tilak Maharashtra Vaidapeeth, Pune**  
**Bachelor of Computer Applications(BCA)**  
**Cloud Technology Syllabus For Sixth Semester**

**Topic 1) Introduction to Linux Networking (8 Hours)**

Basics of linux OS, advance user management, permissions & Task Scheduling, RAID Implementation (RAID0, RAID1, RAID5, RAID6, RAID10), Logical Volume Management (LVM), software Management using rpm, yum.

Linux Networking: DHCP Server (Dynamic Host Configuration Protocol), Apache Web Server, FTP Server, NFS Server, CIFS Server, DNS Server, access control lists

**Topic 2) Introduction to Virtualization (4 Hours)**

What is virtualization, concepts, Implementation of Virtualization. Implementation of remote accessibility, advantages & disadvantages, limitation. Relationship between Virtualization & Cloud Computing.

**Topic 3) Virtualization for Enterprise (6 Hours)**

Virtualization for Enterprise: Vmware, Hyper-V, Virtual Box.

Bare Metal Virtualization, NAS (Network attached storage) implementation, SAN (Storage Area Network) implementation

**Topic 4) Cloud Computing Fundamental (6 Hours)**

Cloud Computing definition, private, public and hybrid cloud. Cloud types; IaaS, PaaS, SaaS. Benefits and challenges of cloud computing, public vs private clouds, role of virtualization in enabling the cloud; Business Agility: Benefits and challenges to Cloud architecture. Application availability, performance, security and disaster recovery; next generation Cloud Applications.

**Topic 5) Cloud Applications& Services (6 Hours)**

Technologies and the processes required when deploying web services; Deploying a web service from inside and outside a cloud architecture, advantages and disadvantages.

Cloud Services: Reliability, availability and security of services deployed from the cloud. Performance and scalability of services, tools and technologies used to manage cloud services deployment; Cloud Economics: Cloud Computing infrastructures available for implementing cloud based services.

## Topic 6) Selecting Cloud Platform (4 Hours)

Economics of choosing a Cloud platform for an organization, based on application requirements, economic constraints and business needs (e.g Amazon, Microsoft and Google)

## Reference Books:

1. Distributed and Cloud Computing, 1st edition, Morgan Kaufmann, 2011.
2. GautamShroff, Enterprise Cloud Computing Technology Architecture Applications [ISBN: 978-0521137355]
3. Toby Velte, Anthony Velte, Robert Elsenpeter, Cloud Computing, A Practical Approach [ISBN: 0071626948]
4. Dimitris N. Chorafas, Cloud Computing Strategies [ISBN: 1439834539]