**MCA-E405-2 Cloud Computing**

<https://www.coursera.org/specializations/cloud-computing#courses>

inside a Datacenter

<https://www.youtube.com/watch?v=XZmGGAbHqa0>

full cloud course on YouTube

<https://www.youtube.com/watch?v=RmuVkB3siYY&list=PLV8vIYTIdSnaKSiSGvJf2QquSN4lEzGob>

AWS <https://www.youtube.com/watch?v=r4YIdn2eTm4>

AWS <https://www.youtube.com/watch?v=MmsoIcYrXJU>

<https://www.youtube.com/watch?v=EN4fEbcFZ_E>

**UNIT I**

|  |  |  |
| --- | --- | --- |
| sno | name | Link reference |
|  | Introduction Cloud Computing Definition | NIST <https://www.youtube.com/watch?v=uNnJli7Vhpk> |
|  | Types of Clouds, | Public Private Community Hybrid |
|  | Layer and Services models, | IAAS PAAS SAAS <https://www.youtube.com/watch?v=lsvpvCU6Oxs>  <https://www.youtube.com/watch?v=36zducUX16w> |
|  | deployment models | Public Private Community Hybrid |
|  | Cloud Computing Architecture and infrastructure | <https://www.youtube.com/watch?v=i5SoCF-4beI>  <https://www.youtube.com/watch?v=GayOsR1Kh4Q>  <https://www.youtube.com/watch?v=9KYK_p8JDFM> |
|  | Cloud Reference Model |  |
|  | Virtualization |  |
|  | Types of virtualizations (Compute, Network, Storage), |  |
|  | Types of Hypervisors |  |

**UNIT II**

|  |  |  |
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| sno | name | Link reference |
|  | Cloud Platforms in Industry: |  |
|  | Major vendors and their offerings, |  |
|  | Introduction to Microsoft Azure, | <https://www.youtube.com/watch?v=tDuruX7XSac> |
|  | Amazon web services (EC2, S3, Etc.), | <https://www.youtube.com/watch?v=_I14_sXHO8U> <https://www.youtube.com/watch?v=8TlukLu11Yo> |
|  | Google AppEngine | <https://www.youtube.com/watch?v=2PRciDpqpko> <https://www.youtube.com/watch?v=lLjz2HhD1dc>  app vs computer engine video is :  <https://www.youtube.com/watch?v=hcU-cO4P2rA> |
|  | Aneka: Cloud Application Platform |  |
|  | Integration of Private and Public Clouds |  |
|  | Cloud applications: |  |
|  | Protein structure prediction, |  |
|  | Data Analysis |  |
|  | Satellite Image Processing |  |
|  | CRM and ERP, |  |
|  | Social networking. |  |
|  | Scientific Application |  |
|  | Business Application. |  |

**UNIT III**

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| sno | name | Link reference |
|  | Cloud Security |  |
|  | Risks and Approaches of Migration into Cloud |  |
|  | Federated Cloud/ Intercloud |  |
|  | Third Party Cloud Services |  |
|  | Business Continuity and Disaster Recovery |  |
|  | Service Level Agreement (SLA), |  |
|  | Dynamic resource provisioning and management, |  |
|  | Server consolidation and placement policies |  |
|  | Energy efficiency in data centers |  |
|  | Elastic Load Balancing and Auto Scaling |  |

**UNIT IV**

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| sno | name | Link reference |
|  | Storage Network Design: |  |
|  | Architecture of storage, analysis and planning |  |
|  | Storage network design considerations |  |
|  | NAS and FC SANs, |  |
|  | hybrid storage networking technologies (iSCSI, FCIP, FCoE), |  |
|  | design for storage virtualization in cloud computing |  |
|  | host system design considerations |  |
|  | Techniques for Big data processing (Google GFS, BigTable, and Map-Reduce Hadoop Distributed  File System (HDFS), HIVE |  |

**UNIT V**

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| sno | name | Link reference |
|  | Consensus in Cloud Computing: |  |
|  | Issues in consensus |  |
|  | Consensus in synchronous and asynchronous system |  |
|  | Byzantine Agreement: |  |
|  | Faults, Tolerance |  |
|  | Measuring Reliability and Performance, |  |
|  | SLIs, SLOs, SLAs, TLAs, |  |
|  | Byzantine failure, |  |
|  | Byzantine Generals Problem |  |
|  | , Failures & Recovery Approaches in Distributed Systems |  |
|  | Checkpointing |  |
|  |  |  |

1. <https://www.youtube.com/watch?v=RzZx7axEMHk>

**Recommended Books**

1. Distributed and Cloud Computing, Kai Hawang, Geofrey C.Fox, Jack J. Dongarra Elservier

2. Cloud Computing Bible, Barrie Sosinsky, Wiley-India, 2010

3. Cloud Computing, Kumar Saurabh, Wiley Pubp