ELECTIVE: IV
BEIT804T2   **CLOUD COMPUTING**
(Theory Credit: 05)

Teaching Scheme: **Examination Scheme:**
Lecture: 4 Hours/week   Theory: T (U): 80 Marks T (I): 20 Marks
Tutorial: 1 Hour/week   Duration of University Exam. : 03 Hours
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UNIT I:
Defining Cloud Computing: Cloud computing in a nutshell, cloud type - NIST Model, cloud cube model, deployment model, service model, Characteristics of cloud computing, cloud computing stack, open stack.

UNIT II:
Understanding Services and Virtualization Technology:
Understanding services and applications, defining Infrastructure as a Service (IaaS), Platform as a service, Software as a Service, Identity as a Service, Compliance as a Service, Using virtualization technologies, Load balancing and virtualization, understanding Hypervisors, understanding machine Imaging, porting applications, Salesforce.com versus Force.com, SaaS versus PaaS.

UNIT III:
Using Cloud Platform:
Using Google web services, using Amazon web services, using Microsoft cloud services, Aneka integration of private and public cloud

UNIT IV:
Cloud Migration:
Broad approaches to migration, seven steps model of migration, mobbing applications to the cloud, Applications in the cloud, Application in cloud API

UNIT V:
Cloud Security and Storage:
Securing the cloud, securing data, working with cloud based storage - measuring the digital universe, provisioning cloud storage, Exploring cloud back-up solutions

UNIT VI:
Cloud Computing Tools and Future Cloud:
Open source cloud computing platform - Eucalyptus, Open Nebula, Programming in the cloud Map Reduce Dryad. Future cloud - Future trends in cloud computing, defining the mobile market, using Smart phones with the cloud.

Text Books:
1. "Cloud Computing Bible", Barrie Sosinsky; Wiley India Pvt. Ltd.
2. "Cloud Computing - Principals and Paradigms", Rajkumar Buyya, James Broberg, Andrzej Goscinski; Wiley India Pvt. Ltd.
3. Cloud Computing, A Hands on Approach, Bahga, Madisetti, University Press,
4. "Mastering Cloud Computing", Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi, Tata McGraw Hill.

Reference Books:
1. "Cloud Computing - A practical approach for learning and implementation", A. Shrinivasan, J. Suresh; Pearson
2. "Cloud Computing - Fundamentals, Industry approach and trends", Rishabh Sharma; Wiley India Pvt. Ltd.

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