BCA616D1: CLOUD COMPUTING

CREDITS: THEORY: 4, PRACTICAL: 2

THEORY: 60 LECTURES

UNIT-I

Overview of Computing Paradigm   **(8 Lectures)**
Recent trends in Computing: Grid Computing, Cluster Computing, Distributed Computing,
Utility Computing, Cloud Computing,
Introduction to Cloud Computing   **(7 Lectures)**
Introduction to Cloud Computing, History of Cloud Computing, Cloud service providers, Benefits and limitations of Cloud Computing,

UNIT-II

Cloud Computing Architecture   **(15 Lectures)**
Comparison with traditional computing architecture (client/server), Services provided at various levels, Service Models- Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), How Cloud Computing Works, Deployment Models- Public cloud, Private cloud, Hybrid cloud, Community cloud, Case study of NIST architecture.

UNIT-III

Case Studies   **(15 Lectures)**
Case study of Service model using Google App Engine, Microsoft Azure, Amazon EC2, Eucalyptus.

UNIT-IV

Service Management in Cloud Computing   **(8 Lectures)**
Service Level Agreements (SLAs), Billing & Accounting, Comparing Scaling Hardware: Traditional vs. Cloud, Economics of scaling.
Cloud Security   **(7 Lectures)**
Infrastructure Security- Network level security, Host level security, Application level security, Data security and Storage- Data privacy and security Issues, Jurisdictional issues raised by Data location, Authentication in cloud computing.

REFERENCE BOOKS

1. *Cloud Computing Bible,* Barrie Sosinsky, *Wiley-India,* 2010
2. *Cloud Computing: Principles and Paradigms,* Editors: Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, *Wile,* 2011
3. *Cloud Computing: Principles, Systems and Applications, Editors:* Nikos Antonopoulos, Lee Gillam, *Springer,* 2012
4. *Cloud Security: A Comprehensive Guide to Secure Cloud Computing,* Ronald L. Krutz, Russell Dean Vines, *Wiley- India,* 2010
5. Gautam Shroff, *Enterprise Cloud Computing Technology Architecture Applications* , Adobe Reader ebooks available from eBooks.com,2010
6. Toby Velte, Anthony Velte, Robert Elsenpeter, *Cloud Computing, A Practical Approach*, McGraw Hills, 2010.
7. Dimitris N. Chorafas, *Cloud Computing Strategies* ,CRC Press, 2010

BCA616D1: CLOUD COMPUTING

LAB: 60 LECTURES (2 CREDITS)

1. Create virtual machines that access different programs on same platform.
2. Create virtual machines that access different programs on different platforms.
3. Working on tools used in cloud computing online-
    a) Storage
    b) Sharing of data
    c) manage your calendar, to-do lists,
    d) a document editing tool
4. Exploring Google cloud
5. Exploring Microsoft cloud
6. Exploring amazon cloud