

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Computer Science and Engineering, VIII-Semester

Departmental Elective – CS802 (B) Cloud Computing

Theory:

1. Introduction to Service Oriented Architecture, Web Services, Basic Web Services Architecture, Introduction to SOAP, WSDL and UDDI; REST ful services: Definition, Characteristics, Components, Types; Software as a Service, Plat form as a Service, Organizational scenarios of clouds, Administering & Monitoring cloud services, benefits and limitations, Study of a Hypervisor.
2. Utility Computing, Elastic Computing, Ajax: asynchronous ‘rich’ interfaces, Mashups: User interface, Services Virtualization Technology: Virtualization applications in enterprises, Pitfalls of virtualization Multitenant software: Multi-entity support, Multi-schema approach, Multi-tenancy using cloud data stores.
3. Data in the cloud: Relational databases, Cloud file systems: GFS and HDFS, Features and comparisons among GFS, HDFS etc, Big Table, H Base and Dynamo. Map-Reduce and extensions: Parallel computing, The Map-Reduce model: Parallel efficiencyofMap-Reduce,Relationaloperations,Enterprisebatchprocessing, Example/Application of Map-Reduce.
3. Cloud security fundamentals, Vulnerability assessment tool for cloud, Privacy and Security in cloud: Cloud computing security architecture, General Issues, Trusted Cloud computing, Security challenges: Virtualization security management-virtual threats, VM Security Recommendations, VM-Specific Security techniques, Secure Execution Environments and Communications in cloud.
5. Issues in cloud computing; implementing real time application; QOS Issues in Cloud, Dependability, data migration, streaming in Cloud. Cloud Middleware. Mobile Cloud Computing. Inter Cloud issues. Agrid of clouds, Sky computing, load balancing, Resource optimization, Resource dynamic reconfiguration, Monitoring in Cloud, Installing cloud platforms and performance evaluation, Features and functions of cloud computing platforms.

TextBooks

1. Kai Hawang, Geoferry C Fox, “Distributed and Cloud Computing”, Elseveir publication, 2012
2. Judith Hurwitz, R.Bloor, M.Kanfman,F.Halper, “Cloud Computing for Dummies”, WileyIndiaEdition
3. RajkumarBuyya, Christian Vecchiola, S. Thamaraselvi, Mastering Cloud Computing, McGraw Hill, 2013

ReferenceBooks

1. ScottGranneman, “GoogleApps”, Pearson, 2012
2. TimMalhar,S.Kumaraswamy,S.Latif, “CloudSecurity&Privacy”, SPD, O’REILLY
3. RonaldKrutzandRussellDeanVines, “CloudSecurity”,Wiley-India, 2011

Research Journals

1. IEEE Transactions on Services Computing.
2. IEEE Translation of Cloud Computing.
3. IEEE Translation of Parallel and Distributed Computing.