

MANGALORE UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE

CSS 508: CLOUD COMPUTING		
Hours/Week: 4 Credits : 4		I.A. Marks: 30 Exams. Marks: 70
<u>Course Outcomes:</u> CO1: Analyze the Cloud computing setup with it's vulnerabilities and applications using different architectures. CO2: Design different workflows according to requirements and apply map reduce programming model. CO3: Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms. CO4: Create combinatorial auctions for cloud resources and design scheduling algorithms for computing clouds CO5: Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application CO6: Broadly educate to know the impact of engineering on legal and societal issues involved in addressing the security issues of cloud computing.		
	UNIT-I	12 Hrs.
Principles of Parallel and Distributed Computing, Introduction to cloud computing, Cloud computing Architecture, cloud concepts and technologies, cloud services and platforms, Cloud models, cloud as a service, cloud solutions, cloud offerings, introduction to Hadoop and Mapreduce . Cloud Platforms for Industry, Healthcare and education, Cloud Platforms in the Industry, cloud applications. Virtualization , cloud virtualization technology, deep dive: cloud virtualization, Migrating in to cloud computing, Virtual Machines Provisioning and Virtual Machine Migration Services, On the Management of Virtual Machines for cloud Infrastructure, Comet cloud, T-Systems.		
	UNIT-II	12 Hrs.
Cloud computing Applications: Industry, Health, Education, Scientific Applications, Business and Consumer Applications, Understanding Scientific Applications for Cloud Environments, Impact of Cloud computing on the role of corporate IT. Enterprise cloud computing Paradigm, Federated cloud computing Architecture, SLA Management in Cloud Computing, Developing the cloud: cloud application Design.		

	UNIT-III	12 Hrs
Python Basics, Python for cloud, cloud application development in python, Cloud Application Development in Python. Programming Google App Engine with Python: A first real cloud Application, Managing Data in the cloud, Google app engine Services for Login Authentication, Optimizing UI and Logic, Making the UI Pretty: Templates and CSS, Getting Interactive. Map Reduce Programming Model and Implementations.		
	UNIT-IV	12 Hrs.
Cloud management, Organizational Readiness and change management in the cloud age ,Cloud Security ,Data security in the cloud, Legal Issues in the Cloud , Achieving Production Readiness for the cloud Services		
REFERENCE BOOKS: 1. Raj Kumar Buyya , James Broberg, andrzej Goscinski, Cloud Computing, Wiley , 2013 2. Raj Kumar buyya, Christian Vecchiola,selvi,Mastering Cloud Computing, Wiley, 2013. 3. Arshdeep Bahga, Vijay Madisetti, Cloud Computing, University Press, 2014 4. Kumar Saurab, Cloud computing: Wiley India 2011. 5. Mark C. Chu-Carroll, Code in the Cloud, Pragmatic Bookshelf; 1 edition,(Second part of IV UNIT) 2011, 6. K Chandrasekharan, Essentials of cloud computing, CRC Press. 7. John W. Rittinghouse, James Ransome, Cloud Computing, CRC Press. 8. Dave Shackleford, Virtualization Security 2013. SYBEX, Wiley, 2013. 9. Ahson, Cloud computing and Software Services, Wiley.2011. 10. Sosinsky, Cloud Computing Bible, Wiley India, 2012. 11. Dan C. Marinescu-, Cloud Computing, Morgan Kaufmann, 2013, 12. Kai Hwang, Geoffery C. Fox, Jack J. Dongarra, Distributed and Cloud Computing, Elsevier, 2012. 13. Kenneth A. Lambert , B.L. Juneja, Fundamentals of Python, Cengage Delmar Learning India Pvt.,2010.		