

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme	Bachelor of Technology				Branch/Spec.	Information Technology			
Semester	VI				Version	2.0.0.0			
Effective from Academic Year		2016-17			Effective for the batch Admitted in		July 2014		
Subject code	2IT609		Subject Name		Cloud Computing				
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	1	-	4	Theory	40	60	100
Hours	3	0	2	-	5	Practical	30	20	50
Pre-requisites:									
Computer Networks									
Learning Outcome:									
<p>At the end of the course, students will have achieved the following learning objectives.</p> <ul style="list-style-type: none"> • understand the hardware, software concepts and architecture of cloud computing. • realize the importance of Cloud Virtualization, Abstractions and Enabling Technologies. • explore the Programming for Applications on Cloud. 									
Theory syllabus									
Unit	Content								Hrs
1	Introduction: Cloud Computing, Layers and Types of Clouds, Cloud Infrastructure Management, Challenges and Applications. Virtualization: Virtualization of Computing, Storage and Resources. Cloud Services: Introduction to Cloud Services IaaS, PaaS and SaaS								08
2	Software as a Service (SaaS): Evolution of SaaS, Challenges of SaaS Paradigm, SaaS Integration Services, SaaS Integration of Products and Platforms. Infrastructure As a Services (IaaS): Introduction, Background & Related Work, Virtual Machines Provisioning and Manageability, Virtual Machine Migration Services, VM Provisioning and Migration in Action. Platform As a service (PaaS): Integration of Private and Public Cloud, Technologies and Tools for Cloud Computing, Resource Provisioning services								09
3	MapReduce Programming models and Implementations: Introduction, Map Reduce Programming Model, Major Map Reduce Implementations for the Cloud, Map Reduce Impacts. Migrating into a Cloud: Cloud Services for Individuals, Cloud Services Aimed at the Mid- Market, Enterprise Class Cloud Offering, Introduction to File System & Hadoop								07
4	Management and Monitoring: Accounts Monitoring, User profiles in Cloud, Resource Allocation and Pricing in Cloud								04
5	Security: Introduction, Cloud Storage: from LANs to WANs, Technologies for Data Security in Cloud Computing, Security Concerns, Legal issues and Aspects, Securing the Private and Public Cloud Architecture								04
6	Cloud Middleware: OpenStack, Eucalyptus, Windows Azure, CloudSim, EyeOs, Aneka, Google App Engine								08
Practical content									
Experiments/Practicals/Simulations would be carried out based on syllabus									

Text Books	
1	Rajkumar Buyya, James Broberg, Andrzej M Goscinski, Cloud Computing: Principles and Paradigms, Wiley publication
2	Toby Velte, Anthony Velte, Cloud Computing: A Practical Approach, McGraw-Hill Osborne Media.
Reference Books	
1	George Reese, Cloud Application Architectures: Building Applications and Infrastructure in the Cloud, O'Reilly Publication
2	John Rhoton, Cloud Computing Explained: Implementation Handbook for Enterprises, Recursive Press