CLOUD COMPUTING

(Professional Elective – II)

Course Code	20IT4601B	**Year**	III	**Semester**	II
Course Category	PE-II	**Branch**	IT	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	CN
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		**Blooms Taxonomy Level**
Upon Successful completion of course, the student will be able to		
CO1	Understanding Fundamental Concepts and Models of Cloud Computing and Cloud Enabling Technologies, Infrastructure Mechanisms	L2
CO2	Determine Cloud Infrastructure Mechanisms	L3
CO3	Determine different Cloud Maintenance strategies	L3
CO4	Analyze Cloud Architectures and Delivery Model	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:Substantial,2:Moderate,1:Slight)

	PO 1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3												2	
CO2	3			3									2	
CO3	3			3									2	
CO4	3	3											2	

Syllabus		
Unit	**Contents**	**Mapped COs**
I	**Understanding Cloud Computing**: Cloud origins and influences, basic concepts and terminology, goals and benefits, risks and challenges. **Fundamental Concepts and Models:** Roles and boundaries, cloud characteristics, cloud delivery models, cloud deployment models	**CO1**
II	**Cloud Enabling Technology:** Data center technology, virtualization technology, web technology, multitenant technology, service technology.	**CO1**
III	**Cloud Infrastructure Mechanisms:** Logical network perimeter, virtual server, cloud storage device, cloud usage monitor, resource replication	**CO1, CO2**
IV	**Specialized Cloud Mechanisms:** Automated Scaling Listener, Load Balancer, SLA Monitor, Pay-Per- Use Monitor, Audit Monitor, Failover System, Hypervisor, Resource Cluster, Multi-Device Broker, State Management Database. Case Studies.	**CO3**
V	**Fundamental Cloud Architectures:** Workload distribution architecture, resource pooling architecture, dynamic scalability architecture, elastic resource capacity architecture, service load balancing architecture, cloud bursting architecture, elastic disk provisioning architecture ,redundant storage architecture. **Cloud Delivery Model Considerations:** The cloud provider perspective: Building IaaS environments, equipping PaaS environments, optimizing SaaS environments, the cloud consumer perspective: Working with IaaS environments, working with PaaS environments, working with SaaS services.	**CO1, CO4**

Learning Recourses
Text Books
1.Thomas Erl, Ricardo Puttini, Zaigham Mahmood, Cloud Computing: Concepts, Technology& Architecture, Prentice Hall,2013.
References
1. John W.Ritting house, James F.Ransome, Cloud Computing: Implementation, Management and Security, CRC Press,2012. 2. Anthony T.Velte, Toby JVelte Robert Elsenpeter, Cloud Computing a practical approach, McGrawHill,2010. 3. MichaelMiller,CloudComputing:WebbasedApplicationsThatChangetheWay You Work and Collaborate Online, QuePublishing,2008.
e-Resources& other digital material
NPTELVIDEOLECTURES