ST.ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
LESSON PLAN

NAME OF THE SUBJECT: **CLOUD COMPUTING**
SECTION: **IV CSE-B&IV CSE-B&C**
NAME OF THE FACULTY: **Mr.N. LAKSHMI NARAYANA ACADEMIC YEAR: 2019-20**

S.No	Unit Number	Topics	No. Of Classes Required
1	1	**Systems modeling, Clustering and virtualization:** Scalable Computing over the Internet, Technologies for Network based systems, System models for Distributed and Cloud Computing, Software environments for distributed systems and clouds, Performance, Security And Energy Efficiency.	6
2	2	**Virtual Machines and Virtualization of Clusters and Data Centers**:Implementation Levels of Virtualization, Virtualization Structures/ Tools and mechanisms, Virtualization of CPU, Memory and I/O Devices, Virtual Clusters and Resource Management, Virtualization for Data Center Automation.	9
3	3	**Cloud Platform Architecture**:Cloud Computing and service Models, Architectural Design of Compute and Storage Clouds, Public Cloud Platforms, Inter Cloud Resource Management, Cloud Security and Trust Management. Service Oriented Architecture, Message Oriented Middleware.	11
4	4	**Cloud Programming and Software Environments**: Features of Cloud and Grid Platforms, Parallel & Distributed Programming Paradigms, Programming Support of Google App Engine, Programming on Amazon AWS and Microsoft Azure, Emerging Cloud Software Environments.	9
5	5	**Cloud Resource Management and Scheduling :** Policies and Mechanisms for Resource Management Applications of Control Theory to Task Scheduling on a Cloud, Stability of a Two Level Resource Allocation Architecture, Feedback Control Based on Dynamic Thresholds. Coordination of Specialized Autonomic Performance Managers, Resource Bundling, Scheduling Algorithms for Computing Clouds, Fair Queuing, Start Time Fair Queuing, Borrowed Virtual Time, Cloud Scheduling Subject to Deadlines, Scheduling MapReduce Applications Subject to Deadlines.	8
6	6	**Storage Systems**: Evolution of storage technology, storage models, file systems and database, distributed file systems, general parallel file systems. Google file system., Apache Hadoop, BigTable, Megastore, Amazon Simple Storage Service(S3)	7

TOTAL NO. OF CLASSES REQUIRED:50

TEXT BOOKS

- Distributed and Cloud Computing, Kai Hwang, Geoffry C. Fox, Jack J. Dongarra MK Elsevier.
- Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier.
- Cloud Computing, A Hands on approach, Arshadeep Bahga, Vijay Madisetti, University Press

REFERNCE BOOKS

- Cloud Computing, A Practical Approach, Anthony T Velte, Toby J Velte, Robert Elsenpeter, TMH
- Mastering Cloud Computing, Foundations and Application Programming, Raj Kumar Buyya, Christenvecctiola, S Tammarai selvi, TMH.

FACULTY **HOD**