Course title: Cloud computing and IoT

Sr. No.	Syllabus
1	Introduction to Cloud Computing • Overview of Computing • Cloud Computing (NIST Model) • Properties, Characteristics & Disadvantages • Role of Open Standards
2	Cloud Computing Architecture • Service Models (Iaas, Paas, Saas, XaaS) • Deployment Models
3	Service Management in Cloud Computing • Service Level Agreements(SLAs) and related examples • Cloud Economics and related examples
4	Virtualization • Benefits of virtualization • Types of virtualization • Load balancing • Hypervisors.
5	The management of virtual machines for cloud infrastructures • Distributed management of virtual machines • Scheduling techniques for advance reservation of capacity • Capacity management to meet SLA commitments
6	Data Management in Cloud Computing • Looking at Data, Scalability & Cloud Services • Database & Data Stores in Cloud • Large Scale Data Processing
7	Cloud Security • Infrastructure Security • Data security and Storage • Identity and Access Management • Access Control, Trust, Reputation, Risk
9	Introduction to IoT, IoT architecture, IoT challenges.
10	Networking protocols- MQTT and COAP
11	Communication Protocols • Zigbee • 6LoWPAN • RFID
12	Software Defined Network (SDN), SDN for IoT
13	Smart Use cases of IoT

Text books:
1. Cloud Computing Bible, Barrie Sosinsky, Wiley-India, 2010
2. Cloud Computing: Principles and Paradigms, Editors: Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, Wiley,2011
3. "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", by Pethuru Raj and Anupama C. Raman (CRC Press)

Reference books:

1. Enterprise Cloud Computing - Technology, Architecture, Applications, Gautam Shroff, Cambridge University Press, 2010
2. Cloud Security: A Comprehensive Guide to Secure Cloud Computing, Ronald L. Krutz, Russell Dean Vines, Wiley- India,2010
3. "Internet of Things: A Hands-on Approach", by Arshdeep Bahga and Vijay Madisetti (Universities Press)