5 years Integrated M.Sc. (IT) – Semester 9
Teaching Schedule
060010904 – Cloud Computing

Unit	Unit Name	Sub Unit	Topics	No. of Lectures	Reference Chapter/Additional Reading	*Teaching Methodology*
1	Introduction to Cloud Computing	1.1	Cloud Computing at a glance	2	[VS#] - chapter 1: Pages 1.1 to 1.11	Presentation
		1.2	Historical Developments	2	[VS#]- chapter 1: Pages 1.11 to 1.17	Chalk and Talk
		1.3	Building Cloud Computing Environments	1	[VS#]- chapter 1: Pages 1.17 to 1.18	Presentation
		1.4	Computing Platforms and Technologies	2	[VS#]- chapter 1: Pages 1.18 to 1.21	Chalk and Talk
2	Principles of Parallel and Distributed Computing	2.1	Eras of Computing	1	[VS#]- chapter 2: Pages 2.1 to 2.2	Chalk and Talk
		2.2	Parallel vs. Distributed Computing	1	[VS#]- chapter 2: Pages 2.2 to 2.2	Chalk and Talk
		2.3	Elements of Parallel Computing	1	[VS#]- chapter 2: Pages 2.2 to 2.8	Chalk and Talk
		2.4	Elements of Distributed Computing	2	[VS#]- chapter 2: Pages 2.8 to 2.22 [KJ#]- chapter 1: Pages 36 to 42	Chalk and Talk
		2.5	Technologies for Distributed Computing	2	[VS#]- chapter 2: Pages 2.22 to 2.34 [KJ#]- chapter 8: Pages 480 to 486	Presentation
3.	Virtualization and Cloud Computing Architecture	3.1	Introduction to Virtualization	1	[VS#]- chapter 3: Pages 3.1 to 3.3 [KJ#]- chapter 3: Pages 130 to 138	Presentation
		3.2	Characteristics of Virtualized Environments	1	[VS#]- chapter 3: Pages 3.3 to 3.6	Chalk and Talk
		3.3	Taxonomy of Virtualization Techniques	2	[VS#]- chapter 3: Pages 3.6 to 3.17	Presentation
		3.4	Virtualization and Cloud Computing	2	[VS#]- chapter 3: Pages 3.17 to 3.20	Chalk and Talk & Demonstration
		3.5	Technology Examples	2	[VS#]- chapter 3: Pages 3.21 to 3.31	Presentation

		3.6	Cloud Reference Model	1	[VS#]- chapter 4: Pages 4.2 to 4.12 [KJ#]- chapter 4: Pages 200 to 206	Chalk and Talk
		3.7	Types of clouds	1	[VS#]- chapter 4: Pages 4.12 to 4.19 [KJ#]- chapter 4: Pages 192 to 196	Chalk and Talk
4.	Concurrent Computing: Thread Programming	4.1	Building ANEKA Cloud	2	[VS#]- chapter 5: Pages 5.11 to 5.16	Demonstration
		4.2	Introducing Parallelism for Single Machine Computing	2	[VS#]- chapter 6: Pages 6.1 to 6.3	Chalk and Talk & Demonstration
		4.3	Programming Applications with Threads	2	[VS#]- chapter 6: Pages 6.3 to 6.18	Chalk and Talk & Demonstration
		4.4	Multithreading with ANEKA Tool	2	[VS#]- chapter 6: Page 6.19 to 6.24	Chalk and Talk & Demonstration
		4.5	Programming Applications with ANEKA Threads	1	[VS#]- chapter 6: Pages 6.24 to 6.38	Chalk and Talk & Demonstration
5.	High – Throughput Computing: Task Programming	5.1	Task Computing	2	[VS#]- chapter 7 : Pages 7.1 to 7.5	Presentation
		5.2	Task Based Application Models	3	[VS#]- chapter 7 : Pages 7.5 to 7.13	Presentation
		5.3	Task Based Programming	3	[VS#]- chapter 7 : Pages 7.13 to 7.36	Chalk and Talk & Demonstration
6.	Data Intensive Computing: Map – Reduce Programming	6.1	Data Intensive Computing	2	[VS#]- chapter 8 : Pages 8.1 to 8.7	Presentation & Chalk and Talk
		6.2	Technologies for Data Intensive Computing	2	[VS#]- chapter 8 : Pages 8.7 to 8.20	Presentation & Chalk and Talk
		6.3	MapReduce Programming	3	[VS#]- chapter 8 : Pages 8.20 to 8.56	Chalk and Talk & Demonstration

Text Book:

1. RajKumar Buyya, Christian Vecchiola, S.Thamarai Selvi – Mastering Cloud Computing – McGraw-Hill **[VS#]**

Reference Book:

1. Kai Hwang, Jack Dongarra, Geoffrey C. Fox - Distributed and Cloud Computing: Clusters, Grids, Clouds, and the Future Internet.Stevens W. R., Advanced Programming in the UNIX Environment, PEARSON **[KJ#]**

2. Kailash Jayaswal, Jagannath Kallkurchi, Donald Houde, Dr. Deven Shah – Cloud Computing Black Book – Dreamtech Press
3. Anthony T Velte – Cloud Computing – A Practical Approach – McGraw-Hill