FACULTY OF COMPUTER SCIENCE
Master Of Computer Application (Sem-II)
In Effect from Academic Year 2023-24

Branch Name:	MCA
Program Code:	CS201
Course Name:	Cloud Computing Practical
Course Code:	3CS2010206P
Pre-requisite Course:	-Basic knowledge of Computer Networks and Network protocol suits -Understanding of process and thread management

Course Objectives:

1. To provide an understanding of the basic concepts of parallel and distributed computing and their role in Cloud Computing.
2. To study the concept of Virtualization and relevant technologies available in the market
3. To understand the importance of Cloud computing for higher throughput
4. To make aware about availability of various Cloud platforms
5. To study different application of Cloud and Cloud management techniques

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory (Marks)		Practical (Marks)		
Lecture (L)	Tutorial (T)	Practical (P)	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total (Marks)
-	-	3	3	-	-	25	25	50

LAB/Practical

1. Develop a hello world program web application and deploy it on the Google app engine.
2. Develop a web application which displays the current date and time in a formatted way.
3. Develop a web application which is customized version of the practical no 2, which relates the clock with Google accounts. Each user will get different view based on the preferences and the user's time zone.
4. Develop a web application for task management. Create a form to enter summary, URL and description of task and a button to insert a task in the task list. Use JPA (Java Persistence API) for the persistence and Sends the selected to do to yourself via email as a reminder
5. Develop a simple Java web application for Google App Engine--a guestbook that lets users post messages to a public message board.
6. Create a book class as entity and make the object persistence using JPA. Demonstrate the saving, fetching and deleting objects operations.
7. Create an employee class as entity and makes the objects persistence using JPA. Demonstrate transaction processing in the data store using JPA.
8. JPA includes a SQL-like query language called JPQL, perform the practical no 6 with JPQL also.
9. Perform the practical no 7 with JPQL[list the employees having salary between a particular range]

Note: Internet connection is required for each practical except practical 1 and practical 2

Text Books:

1. John W.Rittinghous, James F.Ransome, ―Cloud Computing: Implementation, Management and Security‖, CRC Press 2010.
2. Cloud Computing-A Practical Approach, Anthony T. Velte, Toby J. Velte, Robert Elsenpeter. McGrawHill.
3. Michael Miller, ―Cloud computing – Web based applications that change the way you work and collaborate online‖, Pearson Education Inc., 2008

Reference Books:

1. Rishabh Sharma: Cloud Computing Fundamentals, Industry Approach and Trends: Wiley Publication.(ISBN: 978-81-265-5306-8)
2. Kailash Jayaswal, Jagannath Kallakurchi, Donald J Houde, Dr. Deven Shah : Cloud Computing :Black Book Dreamtech Publications(ISBN 978-93-5119-418-7)
3. Dan Sanderson: Programming Google App Engine: O'Reilly| Google Press: (ISBN-978-0-596-52272-8)
4. Cloud Computing: A practical approach by Anthony T. Vetle – Tata McGraw Hill Education Private Limited (2009)
5. Rajkumar Buyya, Christian Vechhiola, S.Thamarai Selvi, "Mastering Cloud Computing ", McGraw Hill Education (India) Private Limited.

List of Open Source Software/learning website:

https://www.simplilearn.com/
https://aws.amazon.com/
https://www.javatpoint.com/cloud-computing-tutorial
https://www.coursera.org/learn/cloud-computing-basics

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom'sTaxonomyLevel
CLO1	Understand the common terms and definitions of virtualization and cloud computing	2 Understanding
CLO2	Familiarize and apply Cloud deployment tools in real time applications	3 Applying,
CLO3	Describe the landscape of different types of virtualization	2 Understanding,
CLO4	Comprehend the technical capabilities and business benefits of virtualization and cloud computing.	3 Applying, 2 Understanding
CLO5	Implement different types of Virtualization technologies and Service Oriented Architecture systems	3 Applying,
CLO6	Choose among various cloud technologies for implementing applications	3 Applying,

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Mapping of CLOs with POs & PSOs

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CLO1	**H**	**M**	**L**	M	L				L		M	**M**	**H**	**M**
CLO2	H	**L**	M	H	H				M		L	L	**L**	**M**
CLO3	M	L	L	M	**L**				L		M	L	**L**	**L**
CLO4	L	**M**	**M**	**M**	L				**M**		M	M	L	**M**
CLO5	M	**L**	**M**	**L**	L		L		**L**		M	L	**M**	**L**
CLO6	L	**M**	**L**	**M**	L				**M**		L	M	L	**M**

H:High, M:Medium, L:Low