CVM UNIVERSITY
(Established under Gujarat Private Universities (Second Amendment) Act : 2019 Gujarat Act No. 20 of 2019)

FACULTY OF ENGINEERING & TECHNOLOGY

First Year Master of Technology

Semester II

Course Code: 102310207

Course Title: Advanced Computing Technologies

Type of Course: Program Elective IV

Course Objectives: Click or tap here to enter text.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
				Internal		External		Total
Lecture	Tutorial	Practical		Theory	J/V/P*	Theory	J/V/P*	
3	0	2	4	30 / 15	20 / 10	70 / 35	30 / 15	150 / 75

* **J**: Jury; **V**: Viva; **P**: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	Introduction to Computing Paradigm What is computing?, Types of Computing paradigms, Parallel and distributed computing, Applications of Computing Paradigms	08
2	Cluster Computing Overview of cluster computing, cluster computing architecture, cluster classification, component of clusters, resource management and scheduling, environments and tools	09
3	Grid Computing Basic concepts of grid computing, anatomy of grid, overview of grid architecture, grid monitoring, grid security and resource management, data management and grid portals	08
4	Cloud Computing Introduction of Cloud Computing, characteristics, virtualization, types of cloud, cloud services, cloud infrastructure, security and privacy in cloud environment, Green Cloud, Case study: AWS cloud	08
5	Fog and Edge Computing Overview of Fog computing and Edge computing, Need for Fog and Edge computing in IoT, Fog computing frameworks, computation offloading, Issues and applications	07
6	Click or tap here to enter text.	Click
7	Click or tap here to enter text.	Click
8	Click or tap here to enter text.	Click
9	Click or tap here to enter text.	Click

10	Click or tap here to enter text.	Click
11	Click or tap here to enter text.	Click
12	Click or tap here to enter text.	Click
13	Click or tap here to enter text.	Click
14	Click or tap here to enter text.	Click
15	Click or tap here to enter text.	Click

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks						**R**: Remembering; **U**: Understanding; **A**: Application, **N**: Analyze; **E**: Evaluate; **C**: Create
R	**U**	**A**	**N**	**E**	**C**	
20%	30%	30%	10%	--	10%	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1	Maozhen Li, Mark Baker, The Grid Core Technologies, John Wiley & Sons, 2005.
2	Cloud Computing from Beginning to End, Ray J Rafaels, Createspace Independent Publishing Platform
3	Fog computing: Concepts frameworks and Technologies, Zaigham Mahmood, Springer
4	High performance cluster computing: Architectures and Systems, vol.1, RajkumarBuyya, PHI
5	Cloud computing: Concepts, Technology and Architecture, Thomas ERL, RecardoPuttini, Person
6	Click or tap here to enter text.
7	Click or tap here to enter text.
8	Click or tap here to enter text.
9	Click or tap here to enter text.
10	Click or tap here to enter text.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Apply grid, cluster and cloud computing techniques to solve engineering and scientific problems	**30**
CO-2	Analyze and Compare solutions by different computing technologies	**25**
CO-3	Use AWS cloud platforms for storage, retrieval and processing	**25**
CO-4	Design and evaluate fog architecture for IoT-enabled mobile networks	**20**
CO-5	Click or tap here to enter text.	Click
CO-6	Click or tap here to enter text.	Click
CO-7	Click or tap here to enter text.	Click
CO-8	Click or tap here to enter text.	Click
CO-9	Click or tap here to enter text.	Click
CO-10	Click or tap here to enter text.	Click

List of Practicals / Tutorials:

Click or tap here to enter text.

1	To study cloud architecture and cloud computing model
2	Installation and Configuration of virtualization using KVM
3	To study and implementation of Infrastructure as a Service
4	To study and implementation of identity management
5	To study and implementation of Storage as a Service
6	To Study Cloud security management
7	Case Study: Amazon Web Services
8	Case Study: Fog Computing
9	Case Study: Edge Computing
10	Mini Project
11	Click or tap here to enter text.
12	Click or tap here to enter text.
13	Click or tap here to enter text.
14	Click or tap here to enter text.
15	Click or tap here to enter text.

Supplementary learning Material:	
1	Click or tap here to enter text.
2	Click or tap here to enter text.
3	Click or tap here to enter text.
4	Click or tap here to enter text.
5	Click or tap here to enter text.

Curriculum Revision:	
Version:	**1**
Drafted on (Month-Year):	Apr-20
Last Reviewed on (Month-Year):	Jul-20
Next Review on (Month-Year):	Apr-22