

# BLACK DIAMOND SCHOOL OF ENGINEERING, JHARSUGUDA

## LESSON PLAN

Session (2022-2023)

<b>Discipline: Computer Science &amp; Engineering</b>	<b>Semester: 6<sup>th</sup>, Summer/2023</b>	<b>Name of the Teaching Faculty: Mr. Jugesh Besan, Lecturer Computer Science Engg. Department</b>
<b>Subject: Cloud Computing Theory- 03</b>	<b>No. Of Days / Week :04</b>	<b>Start Date: 13/02/2023 End Date: 23/05/2023</b>

Week	Class Day	Theory Topics
<b>1st</b>	<b>1st</b>	<b>Unit-1: Introduction to Cloud Computing</b> Historical development
	<b>2nd</b>	Vision of Cloud Computing
	<b>3rd</b>	Characteristics of Cloud computing
	<b>4th</b>	Characteristics of Cloud computing
<b>2nd</b>	<b>1st</b>	<b>Unit-2: Cloud Computing Architecture</b> Introduction Cloud Reference Model
	<b>2nd</b>	Types of Clouds
	<b>3rd</b>	Cloud Interoperability and standards Cloud computing Interoperability use cases
	<b>4th</b>	Role of standards in Cloud Computing environment
<b>3rd</b>	<b>1st</b>	<b>Unit -3: Scalability and Fault Tolerance</b> Introduction Scalability and Fault Tolerance Cloud solutions Cloud Ecosystem
	<b>2nd</b>	Cloud Business process management Portability and Interoperability Cloud Service management
	<b>3rd</b>	Testing under Control Cloud Offerings
	<b>4th</b>	Cloud service Controls Virtual desktop Infrastructure

<b>4th</b>	<b>1st</b>	<b>Unit-4: Cloud Management and Virtualization Technology</b> Create a virtualized Architecture. Data Centre Resilience Agility
	<b>2nd</b>	Cisco Data Centre Network architecture
	<b>3rd</b>	Storage Provisioning Asset Management Concept of Map Reduce Cloud Governance
	<b>4th</b>	Load Balancing High Availability Disaster Recovery
<b>5th</b>	<b>1st</b>	<b>Unit – 5: Virtualization</b> Virtualization Virtualisation benefits
	<b>2nd</b>	Desktop and Application Virtualisation Network Virtualisation
	<b>3rd</b>	Local desktop Virtualisation Desktop as a service
	<b>4th</b>	<b>QUIZ TEST</b>
<b>6th</b>	<b>1st</b>	Server Virtualisation
	<b>2nd</b>	Block and File level Storage Virtualisation
	<b>3rd</b>	Virtual Machine Monitor
	<b>4th</b>	Infrastructure Requirements
<b>7th</b>	<b>1st</b>	VLAN and VSAN
	<b>2nd</b>	<b>Unit- 6: Cloud Security</b> Cloud Security Fundamentals
	<b>3rd</b>	Cloud security services
	<b>4th</b>	Cloud security services
<b>8th</b>	<b>1st</b>	Design Principles
	<b>2nd</b>	Secure Cloud software requirements
	<b>3rd</b>	Policy Implementation
	<b>4th</b>	Cloud Computing Security Challenges
<b>9th</b>	<b>1st</b>	<b>Unit- 7: Cloud Computing Security Architecture</b>
	<b>2nd</b>	Architectural Considerations
	<b>3rd</b>	Information Classification
	<b>4th</b>	Virtual Private Networks

<b>10th</b>	<b>1st</b>	Public Key and Encryption Key management
	<b>2nd</b>	Digital certificates
	<b>3rd</b>	Key management
	<b>4th</b>	Memory Cards
<b>11th</b>	<b>1st</b>	Implementing Identity Management
	<b>2nd</b>	Controls and Autonomic System
	<b>3rd</b>	<b>Unit- 8: Market Based Management of Clouds</b>
	<b>4th</b>	Cloud Information security vendors
<b>12th</b>	<b>1st</b>	Cloud Federation, characterization
	<b>2nd</b>	Cloud Federation stack
	<b>3rd</b>	Third Party Cloud service
	<b>4th</b>	Case study
<b>13th</b>	<b>1st</b>	<b>Unit-9: Hadoop</b>
	<b>2nd</b>	Introduction
	<b>3rd</b>	Data Source
	<b>4th</b>	Data storage and Analysis
<b>14th</b>	<b>1st</b>	Comparison with other system
	<b>2nd</b>	<b>Quiz Test</b>
	<b>3rd</b>	<b>Revision</b>
	<b>4th</b>	<b>Revision</b>
<b>15th</b>	<b>1st</b>	<b>Discussion of Question Answer</b>
	<b>2nd</b>	<b>Discussion of Question Answer</b>
	<b>3rd</b>	<b>Discussion of Question Answer</b>
	<b>4th</b>	<b>Discussion of Question Answer</b>