Reg. No.

M.E. / M.TECH. DEGREE EXAMINATIONS, MAY 2023
Second Semester
IR22002 – DATA ANALYTICS AND CLOUD COMPUTING
(Industrial Automation and Robotics)
(Regulation 2022)

TIME: 3 HOURS   **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Students will able to understand the key issues in big data management and its associated applications in intelligent business and scientific computing.	3
CO 2	Students can acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics.	2
CO 3	Students can able to interpret business models and scientific computing paradigms, and apply software tools for big data analytics.	4
CO 4	Students can define Cloud Computing and memorize the different Cloud service and deployment models.	3
CO 5	Students will be able to describe importance of virtualization along with their technologies.	5

PART- A (20x2=40Marks)
(Answer all Questions)

		CO	RBT LEVEL
1.	Identify the challenges in big data.	1	3
2.	Differentiate between data analysis and data reporting.	1	2
3.	List the properties of data, reference to the various definitions of data.	1	3
4.	Examine the various dimensions of growth of big data.	1	3
5.	Give the definition of Hadoop.	2	2
6.	Differentiate between Hadoop and Map Reduce	2	2
7.	How can a key value pair is formed?	2	2
8.	Illustrate the characteristics of Hadoop.	2	2
9.	Examine the need for Apache pig.	3	3
10.	Infer about Pig, Hive and HBase.	3	4
11.	Give the different types of regression.	3	2
12.	Differentiate regression and correlation.	3	4
13.	Give the advantages of cloud computing.	4	2
14.	Highlight the importance of the term "cloud computing".	4	2
15.	Illustrate the characteristics of cloud architecture that separates it from traditional one?	4	3
16.	Demonstrate the need of private cloud.	4	3
17.	Infer about optimized internet overlay.	5	4
18.	Differentiate site to site VPN and remote access VPN.	5	4
19.	How will you overcome the issues related to redundancy in cloud storage?	5	2
20.	Demonstrate the Uploading and offloading process in cloud computing.	5	4

PART- B (5x 10=50Marks)

		Marks	CO	RBT LEVEL
21.(a)	Explain in detail about the big data architecture with a neat schematic diagram.	(10)	1	2
	(OR)			
(b)	Discuss the challenges faced by the traditional system and explain how big data overcomes those challenges?	(10)	1	2
22.(a)	Demonstrate the algorithms using Map Reduce and Show the Extensions to Map Reduce.	(10)	2	2
	(OR)			
(b)	Demonstrate the importance of using HDFS and Classify Big Data.	(10)	2	2
23.(a)	Analyze the meaning of the term "prediction" and Explain in detail about Predictive Analysis.	(10)	3	4
	(OR)			
(b)	Explain briefly on Hbase architecture with neat diagram.	(10)	3	4
24.(a)	Illustrate about the architectural design of compute and storage clouds.	(10)	4	3
	(OR)			
(b)	For a SaaS application, who will be responsible to provide security for the infrastructure? Will it be cloud service provider or the cloud service consumer? Examine who will be responsible to ensure compliance with a privacy standard? Formulate your views about it.	(10)	4	3
25.(a)	Assess the security issues and concerns associated with cloud computing.	(10)	5	5
	(OR)			
(b)	Assess in detail about various cloud services under cloud computing technology.	(10)	5	5

PART- C(1x 10=10Marks)
(Q.No.26 is compulsory)

		Marks	CO	RBT LEVEL
26.	It is said, 'cloud computing can save money'. What is your view? Justify it. Can you name some open-source cloud computing platform databases? Explain any one database in detail.	(10)	4	3