Code No.: DS702PC	R20	H.T.No.			8	R						

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Supply) - December- 2025
BIG DATA ANALYTICS
(CSD)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1. a)	Summarize the characteristics of Big Data.	[2M]
b)	Compare DBMS and MapReduce.	[2M]
c)	Define HDFS file system.	[2M]
d)	Why is a block in HDFS so large?	[2M]
e)	What constitutes progress in MapReduce?	[2M]
f)	State the role of shuffle and sort in MapReduce.	[2M]
g)	How RDD is fault-tolerant in Spark?	[2M]
h)	Name the datatypes in hive.	[2M]
i)	List out the client options for interacting with an HBase cluster.	[2M]
j)	Summarize the advantages of NoSQL.	[2M]

PART-B **(50 Marks)**

2.	Describe the MapReduce data flow with single reduce task and multiple reduce tasks.	[10M]
	OR	
3.	How to set up a Hadoop cluster? Summarize the cluster specifications.	[10M]
4.	Outline and discuss the mechanism of a client writing data to HDFS with a neat diagram.	[10M]
	OR	
5.	Examine the task of reading data from a Hadoop URL and reading data using the File System API.	[10M]
6.	Interpret the failure of the running task, failure of the tastracker, and failure of the jobtracker in MapReduce and failure of the task, the application master, the node manager, and the resource manager in YARN.	[10M]
	OR	
7.	Label the OutputFormat class hierarchy and explain the output data formats in Hadoop.	[10M]
8.	Show the high-level comparison of SQL and HiveQL.	[10M]
	OR	
9.	Name the built-in functions available in Pig tool and inspect the usage of user-defined functions in Pig tool.	[10M]
10.	Analyze the complete process of building an online query application.	[10M]
	OR	
11.	List out and elaborate various types of NoSQL databases.	[10M]

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