O.P.Code: 23CS1104	R23	H.T.No.										

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. III Year II Semester Regular Examinations April-2026

BIG DATA ANALYTICS

CSE (Artificial Intelligence and Data Science)

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

PART-A

(Answer all the Questions **10 x 2 = 20** Marks)

1	a	Define Generics Class in Java.	CO1	L1	2M
	b	Define Linked List?	CO1	L1	2M
	c	State the role of NameNode in Hadoop.	CO2	L2	2M
	d	What is Job Tracker?	CO2	L1	2M
	e	What is the function of Reducer?	CO3	L1	2M
	f	What is meant by Hadoop MapReduce API?	CO3	L1	2M
	g	Define Apache Spark.	CO5	L1	2M
	h	What is stream computing?	CO5	L1	2M
	i	What are the modes of running Pig scripts?	CO6	L1	2M
	j	What is Apache Hive?	CO6	L1	2M

PART-B

(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

2	a	Explain the structure and working of a Linked List.	CO1	L1	5M
	b	Illustrate Stack operations with an example.	CO1	L2	5M
		OR			
3	a	Demonstrate the use of Generics with a simple Java example.	CO1	L3	5M
	b	Apply Wrapper classes in Java to demonstrate their need in handling primitive data types with suitable examples.	CO1	L3	5M

UNIT-II

4		Apply the Google File System (GFS) architecture to illustrate how large files are stored, accessed, and managed in a distributed environment.	CO2	L3	10M
		OR			
5	a	Explain the HDFS Read INTERFACES in detail	CO2	L2	5M
	b	Analyze the importance of Hadoop ECO System in detail.	CO2	L3	5M

UNIT-III

6	a	Explain the MapReduce programming model with a neat diagram.	CO3	L2	5M
	b	Describe the working of Mapper and Reducer phases.	CO3	L2	5M

OR

7	a	Apply the Combiner and Partitioner in a MapReduce program to improve performance and data distribution.	CO4	L3	5M
	b	Apply the Driver code in a MapReduce program to configure and execute a job, illustrating its purpose.	CO4	L3	5M

UNIT-IV

8	a	Explain stream data model and architecture.	CO5	L2	5M
	b	Describe the concept of stream computing.	CO5	L2	5M
		OR			
9	a	Explain methods for counting distinct elements in a data stream.	CO5	L2	5M
	b	Describe Spark architecture and its components.	CO5	L2	5M

UNIT-V

10	a	Explain basic Pig Latin operators with examples.	CO6	L2	5M
	b	Compare local and distributed modes of running Pig scripts.	CO6	L3	5M
		OR			
11	a	Apply different Hive data types with suitable examples.	CO6	L3	5M
	b	Demonstrate creation and management of Hive databases and tables.	CO6	L3	5M

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