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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E - Information Science and Engineering

Semester End Examination; July - 2023

Big Data

Time: 3 hrs *Max. Marks: 100*

Course Outcomes

The Students will be able to:

CO1: Demonstrate the characteristics of big data using map reduce.

CO2: Apply data modeling techniques to large data sets using HDFS.

CO3: Develop application for big data analytics with the use of pig.

CO4: Evaluate local and distributed modes using pig.

CO5: Make use of hive data manipulation language for querying and analyzing data.

***Note**: I) **PART - A** is compulsory. **Two** marks for each question.*

*II) **PART - B**: Answer any **Two** sub questions (from a, b, c) for a Maximum of **18 marks** from each unit.*

Q. No.	Questions	Marks	BLs	COs	POs
	I : PART - A	**10**			
1 a.	List any five applications of Big Data.	2	L1	CO1	PO1
b.	Define Pig. List the data types supported by Pig.	2	L1	CO3	PO1
c.	List the characteristics of HDFS.	2	L1	CO2	PO1
d.	Define YARN Schedulers.	2	L1	CO4	PO1
e.	Define HIVE DDL. List the commands used in DDL.	2	L1	CO5	PO1
	II : PART - B	**90**			
	UNIT - I	**18**			
2 a.	Explain shared-everything and shared-nothing architecture used in data processing.	9	L2	CO1	PO1
b.	Define Big Data. Explain Big Data processing cycle and Big Data processing flow.	9	L2	CO1	PO1
c.	Explain the four V's of Big Data with suitable example.	9	L2	CO1	PO1
	UNIT - II	**18**			
3 a.	Explain different ways of distributing data in databases.	9	L2	CO2	PO1
b.	Explain Google File Systems (GFS).	9	L2	CO2	PO1
c.	Define Hadoop. Explain the HDFS architecture in Hadoop.	9	L2	CO2	PO1
	UNIT - III	**18**			
4 a.	Explain the attributes of the Map phase and Reduce phase.	9	L2	CO2	PO1
b.	Explain the MapReduce data flow with a neat diagram.	9	L2	CO2	PO1
c.	Explain Hadoop MapReduce data processing scenario.	9	L2	CO2	PO1

Contd....2

	UNIT - IV	**18**			
5 a.	What is logging? Explain the role it performs in testing Hadoop applications.	9	L2	CO2	PO1
b.	Explain the backward compatibility with YARN.	9	L2	CO4	PO1
c.	Explain the YARN architecture with neat diagram.	9	L2	CO4	PO1
	UNIT - V	**18**			
6 a.	Explain HIVE architecture with neat diagram.	9	L2	CO5	PO1
b.	List and explain any three different operators working with pig.	9	L2	CO3	PO1
c.	Explain the data manipulation in HIVE.	9	L2	CO5	PO1

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