U.S.N ☐☐☐☐☐☐☐☐☐☐

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 /August - 2022
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.

<u>**Note:**</u> *I)* **PART - A** *is compulsory.* **Two** *marks for each question.*
     II) **PART - B**: *Answer any* <u>**Two**</u> *sub questions (from a, b, c) for Maximum of* **18 marks** *from each unit.*

Q. No.	Questions	Marks	BLs	COs	POs
	I : PART - A	**10**			
I a.	Define big data. Why we need the concept of big data in industries.	2	L1	CO1	PO1
b.	List important features of YARN.	2	L2	CO2	PO1
c.	Explain the need of map-reduce model.	2	L1	CO3	PO1,2
d.	Summarize the procedures of debugging Hadoop.	2	L2	CO4	PO1,2
e.	List the features of HIVE.	2	L2	CO5	PO1
	II : PART - B	**90**			
	UNIT - I	**18**			
1 a.	List and summarize the big data applications.	9	L2	CO1	PO1
b.	Explain the different types of big data stack layers.	9	L1	CO1	PO1
c.	Explain the following with an example:				
	i) Structured and Unstructured data sources	9	L1	CO1	PO1
	ii) Conventional challenges in Big Data				
	UNIT - II	**18**			
2 a.	Discuss the concept of distributed data processing as a big data technology.	9	L2	CO2	PO1
b.	Explain the structure of HDFS with a neat diagram.	9	L2	CO2	PO1
c	Define zookeepers. Explain the features with different applications.	9	L2	CO2	PO1
	UNIT - III	**18**			
3 a.	Explain the architecture of Hadoop along with their features.	9	L2	CO3	PO1,2
b.	Explain the features of map-reduce architecture.	9	L2	CO3	PO1
c.	Explain the various map reduce operation in Hadoop.	9	L2	CO3	PO1,2

UNIT - IV		**18**		
4 a. Explain the YARN architecture with neat diagram.		9	L2 CO4	PO1
b. Explain the following:				
i) Perform local application testing with eclipse		9	L2 CO4	PO1,2
ii) Defensive programming in map-reduce				
c. Explain the various YARN schedulers with an example.		9	L2 CO4	PO1,2
UNIT - V		**18**		
5 a. Explain the process of installing HIVE and its features.		9	L2 CO5	PO1
b. Explain how you query the data in HIVE, with an example?		9	L2 CO5	PO1,2
c. Explain the error handling procedure in PIG.		9	L2 CO5	PO1,2

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