

Code No: **RT4105B** 

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## IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018 HADOOP AND BIG DATA

(Common to Computer Science and Engineering and Information Technology) Time: 3 hours Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B \*\*\*\*\*

## PART-A (22 Marks)

1	a)	Write the various methods in Map interface.	[4]
	b)	List the characteristics of Big Data.	[4]
	c)	What are the functions of a combiner?	[3]
	d)	List the writable wrapper classes for java primitives.	[4]
	e)	Differentiate Apache pig with Map Reduce.	[4]
	f)	What do you mean by HiveQL Data Definition Language?	[3]
		<b>PART–B</b> $(3x16 = 48 Marks)$	
2	a)	Explain the Linked List data structure with sample example program.	[8]
	b)	What is data serialization? With proper examples discuss and differentiate structured unstructured and semi-structured data. Make a note on how type	
		of data affects data serialization.	[8]
3		Explain in detail building blocks of Hadoop with neat sketch.	[16]
4	a)	Write Map Reduce steps for counting occurrences of specific numbers in the	
-	)	input text file(s). Also write the commands to compile and run the code.	[8]
	b)	Discuss on the different types and formats of Map-reduce with an example	r.,
	,	each one.	[8]
5	a)	What do you mean by a custom writable and explain the implementation of a	
		custom writable with an example.	[8]
	b)	Explain the Writable class hierarchy with a neat sketch.	[8]
6	a)	Draw and explain architecture of APACHE PIG in detail.	[8]
-	b)	Discuss how Pig data model will help in effective data flow.	[8]
7	a)	Draw and explain Architecture of APACHE HIVE. Explain various data	
		insertion techniques in HIVE with example.	[8]
	b)	Explain any three Hive QL DDL command with its syntax and example.	[8]



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Set No. 2

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(Common to Computer Science and Engineering and Information Technology) Time: 3 hours Max. Marks: 70

> Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B \*\*\*\*\*

## PART-A (22 Marks)

1	a)	List various wrapper classes in Java.	[4]
	b)	Write the reasons for Why Hadoop won't be using JAVA serialization.	[3]
	c)	Define structured, semi structured and un structured data with examples.	[4]
	d)	Define Byte writable and Object writable writable wrappers.	[4]
	e)	Write a PIG script for Word Count.	[4]
	f)	Explain Metastore in Hive.	[3]
		<b>PART–B</b> $(3x16 = 48 Marks)$	
2	a)	Discuss about serialization concept in java.	[8]
	b)	Explain in brief about various map implementations in Java with suitable	
		examples.	[8]
3	a)	Explain the procedure for Installing Hadoop in Pseudo Distributed Mode.	[8]
	b)	Discuss Big data in terms of three dimensions, volume, variety and velocity.	[8]
		CO'	
4	a)	Write Map Reduce steps for counting sum of numbers in the input text file(s).	
		Also write the commands to compile and run the code.	[8]
	b)	What are core methods of a reducer? What happens if you try to run a Hadoop	
		job with an output directory that is already present?	[8]
~	``		
3	a)	Explain about the implementation of raw comparator and custom raw	гот
	<b>L</b> )	Comparator with an example.	[8]
	0)	Comparable and comparators wir to implementing the socialization	۲Ø٦
		Comparable and comparators w.i.to implementing the serialization.	[o]
6	a)	List any five commands of pig script	[8]
U	h)	Discuss Pig Latin Application Flow	[8]
	0)	2.55	[~]
7	a)	Explain working of Hive with proper steps and diagram.	[8]
	b)	What are the different Hive data types? Explain them briefly.	[8]



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Set No. 3

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(Common to Computer Science and Engineering and Information Technology) Max. Marks: 70

Time: 3 hours

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B \*\*\*\*\*

## PART-A (22 Marks)

1	a)	What are the uses of serialization?	[4]
	b)	What are the various functions of name node?	[4]
	c)	Define the role of combiner and partitioner in a map reduce application.	[3]
	d)	How a custom raw comparator differs from the raw comparator?	[4]
	e)	List the components of Pig Execution Environment.	[3]
	f)	Why HIVE is relevant in Hadoop Eco system?	[4]
		<b>PART–B</b> $(3x16 = 48 Marks)$	
2	a)	Explain the Stack and Queue Data structure in java with sample program.	[8]
	b)	Discuss the use of wildcards in generic methods.	[8]
3	a)	Define HDES Discuss the HDES Architecture and HDES Commands in brief	[8]
5	b)	Explain in detail Hadoop distributed file system.	[8]
	0)		[~]
4	a)	Explain Map-reduce framework in detail.	[8]
	b)	Discuss the following	
		(i) Mapper (ii) Reducer (iii) Combiner	[8]
_	- )		101
3	a)	Describe in brief about writable Class hierarchy with suitable examples.	[8]
	D)	Discuss about the writable collections.	[8]
6	a)	Discuss the various data types in Pig.	[8]
	b)	Write a word count program in Pig to count the occurrence of similar words in	
	,	a file.	[8]
7	a)	Write the Hive commands to create a sample table of a student with roll	[8]
	,	number, name and address And insert two rows into that table.	
	b)	Explain procedure to write user defined functions in HIVE.	[8]



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Set No. 4

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(Common to Computer Science and Engineering and Information Technology) Time: 3 hours Max. Marks: 70

> Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B \*\*\*\*\*

#### PART-A (22 Marks)

1	a) b)	Write about Bounded Type Parameters. Name different configuration files in Hadoop.	[4] [4]
	c) d)	Write about programming model for data processing in MapReduce. Why Key Type need be both Writable and Comparable in Map-Reduce	[4]
		Programs	[3]
	e)	What is a pig and specify its role in Hadoop?	[3]
	f)	What are views in HIVE?	[4]
		<b>PART–B</b> $(3x16 = 48 Marks)$	
2	a)	Explain the concept of wrapper classes in java.	[8]
	b)	What do you mean by linear and non-linear data structures? Specify the sets are comes under linear or non-linear and explain the various types of sets	
		supported by java.	[8]
3	a)	Explain Hadoop Architecture and its Components with proper diagram.	[8]
	b)	Explain how big data processing differs from distributed processing.	[8]
4	a)	Explain the role of driver code, mapper code and reducer code within a map	
		reduce program model by a suitable example.	[8]
	b)	What is the difference between the old and new versions of Hadoop API for	
		Map Reduce frame work?	[8]
5	a)	Write a Java code to implement a Raw comparator for speed.	[8]
	b)	Discuss in brief about the writable wrappers for Java primitives.	[8]
6	a)	How the pig programs can be packaged and explain the modes of running a	101
	1.)	pig script with a neat sketch.	[8]
	D)	List and explain the relational operators in Fig.	[٥]
7	a)	What is Hive meta store? Which classes are used by the Hive to Read and Write HDFS Files? Explain.	[8]
	b)	Write Example Hive Queries for Natural Join and outer-Join.	[8]