



PAPER ID-410082

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Subject Code: KOE097

Roll No:

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**BTECH**  
**(SEM VIII) THEORY EXAMINATION 2023-24**  
**BIG DATA**

**TIME: 3 HRS****M.MARKS: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

Q no.	Question	Marks	CO
a.	List any five Big Data platforms.	02	1
b.	Discuss the importance of Hadoop technology in Big Data Analytics.	02	1
c.	Explain three benefits of MapReduce.	02	2
d.	Define heartbeat in HDFS.	02	2
e.	List any five Big Data platforms.	02	3
f.	Define data replication in Hadoop Distributed File System.	02	3
g.	Name any two data ingestion tool in Hadoop.	02	4
h.	Compare and Contrast No SQL and Relational Databases	02	4
i.	Discuss the advantages of scala over java.	02	5
j.	Differentiate between Pig and Hive	02	5

**SECTION B****2. Attempt any three of the following:****3 x 10 = 30**

a.	Differentiate between structured, semi-structured and unstructured data with suitable example.	10	1
b.	Illustrate the anatomy of a MapReduce job run.	10	2
c.	Demonstrate the design of HDFS and concept in detail.	10	3
d.	Explain how CRUD operations with example are performed in MongoDB.	10	4
e.	Illustrate how Zookeeper facilitates coordination and synchronization among HBase.	10	5

**SECTION C****3. Attempt any one part of the following:****1 x 10 = 10**

a.	Discuss the 5 Vs of Big Data and their implications.	10	1
b.	Elaborate various components of Big Data architecture.	10	1

**4. Attempt any one part of the following:****1 x 10 = 10**

a.	Explain the architecture of Hadoop Distributed File System (HDFS) and its fault tolerance mechanisms.	10	2
b.	Discuss Hadoop streaming and pipes.	10	2

**5. Attempt any one part of the following:****1 x 10 = 10**

a.	Examine how a client read and write data in HDFS.	10	3
b.	Mention about the Cluster specification? Describe how to Setting up a Hadoop Cluster?	10	3



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<b>6. Attempt any <i>one</i> part of the following:</b>		<b>1 x 10 = 10</b>	
a.	State features of Apache Spark and also explain three ways of how Spark can be built with Hadoop components.	10	4
b.	Discuss about Name node high availability and HDFS federation.	10	4

  

<b>7. Attempt any <i>one</i> part of the following:</b>		<b>1 x 10 = 10</b>	
a.	Discuss the need for PIG in Hadoop ecosystem. Also explain its various execution mode.	10	5
b.	Explain Apache Hive architecture and the components involved in its operation.	10	5

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