PAPER ID-311786

Subject Code: KCA022

Roll No: | | | | | | | | | | | | | |

MCA

(SEM III) THEORY EXAMINATION 2023-24

BIG DATA

TIME: 3HRS **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.	Define the term Big Data.	2	1
b.	Which type of data can be used for the Big Data?	2	1
c.	How does Apache Hadoop help process the data?	2	2
d.	List the 2 components of Hadoop.	2	2
e.	Write down the default block size of HDFS.	2	3
f.	Discuss two compression formats in Hadoop.	2	3
g.	Which component was introduced newly in Hadoop 2.0?	2	4
h.	List the responsibilities division of Job Tracker in Hadoop 2.0.	2	4
i.	Discuss the execution modes of the Pig	2	5
j.	Write 2 differences between Hbase and RDBMS.	2	5

SECTION B

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

a.	Discuss the various types of analytics used in Big Data.	10	1
b.	Describe the Hadoop Ecosystem.	10	2
c.	What do you mean by scaling out? Discuss the various reasons for scaling out.	10	3
d.	Compare the NoSQL databases with Relational databases. Describe the various types of NoSQL databases.	10	4
e.	Explain the architecture of Pig with the help of a neat diagram.	10	5

SECTION C

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

a.	Discuss the 5 Vs used in Big Data with the help of an example.	10	1
b.	Illustrate the use of cloud computing to manage the data.	10	1

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

a.	Discuss the role of Hadoop Pipes in the map-reduce process.	10	2
b.	Illustrate the map-reduce architecture with the help of a neat diagram.	10	2

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

a.	Illustrate the rack awareness algorithm for writing the data in HDFS.	10	3
b.	Illustrate the process of reading a block in Hadoop.	10	3

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

a.	Explain the components of features and components of Apache Spark.	10	4
b.	Discuss the role of MapReduce in Hadoop. Give the comparison between MapReduce V1 and V2.	10	4

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

a.	Describe the Hive Architecture with the help of a neat diagram.	10	5
b.	Discuss the requirements and architecture of zookeeper.	10	5

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