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MCA
(SEM III) THEORY EXAMINATION 2021-22
BIG DATA

Time: 3 Hours**Total 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**

Qno.	Question	Marks	CO
a.	List down various Big Data Platforms.	2	1
b.	List down the characteristics of Big Data Applications.	2	1
c.	What do you understand by Map-Reduce?	2	2
d.	List down five characteristics of Big Data.	2	2
e.	What are the advantages of Hadoop?	2	3
f.	Explain the difference between structure and unstructured data.	2	3
g.	Explain Avro data serialization technique in MapReduce.	2	4
h.	What is Name node & Data node in Hadoop Architecture.	2	4
i.	What is Apache Spark?	2	5
j.	Difference between HDFS and Hbase.	2	5

SECTION B**2. Attempt any three of the following:**

a.	What are the benefits of Big Data? Discuss challenges under Big Data. How Big Data Analytics can be useful in the development of smart cities.	10	1
b.	What is HDFS? Illustrate the major blocks in HDFS architecture.	10	2
c.	Show on how a client read and write data in HDFS, Give an example code.	10	3
d.	What are NoSQL databases? What are the different types of NoSQL databases?	10	4
e.	What are the main tools used in Hadoop eco system?	10	5

SECTION C**3. Attempt any one part of the following:**

a.	What is Big data? Describe the main features of a big data in detail.	10	1
b.	What are privacy and ethical issues with Big Data?	10	1

4. Attempt any one part of the following:

a.	What are the components of Hadoop. Discuss any two component in detail.	10	2
b.	With a neat diagram, describe the steps of Map reduce parallel data flow.	10	2

5. Attempt any one part of the following:

a.	How does HDFS ensure data integrity in a Hadoop cluster?	10	3
b.	What is Avro file based data structure. Illustrate with an example.	10	3

6. Attempt any one part of the following:

a.	Which are the important features of MongoDB? Define Namespace in MongoDB.	10	4
b.	Discuss Hadoop YARN in detail with failures in classic Map-reduce.	10	4

7. Attempt any one part of the following:

a.	Discuss the concept of regions in HBase and Storing Big data with HBase.	10	5
b.	Explain any three HiveQL DDL command with its syntax and example.	10	5