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MCA
(SEM III) THEORY EXAMINATION 2025-26
BIG DATA

TIME: 3 HRS**M.MARKS: 70****Note:** Attempt all Sections. In case of any missing data; choose suitably.**SECTION A****1. Attempt all questions in brief.****02 x 7 = 14**

Q no.	Question	CO	Level
a.	What is Big Data analytics?	1	K2
b.	What are the types of digital data?	1	K2
c.	What are Apache Hadoop and HDFS?	2	K2
d.	What is Flume?	3	K2
e.	What do you mean by YARN and MongoDB?	3	K1
f.	What are closures in Scala?	4	K2
g.	What is Pig?	5	K2

SECTION B**2. Attempt any three of the following:****07 x 3 = 21**

a.	Explain the Big Data platform and drivers for Big Data adoption.	1	K2
b.	Describe the components and data formats used in Hadoop .	2	K3
c.	Explain file sizes, block sizes and block abstraction.	3	K3
d.	Explain MongoDB architecture and also brief creating, updating and deleting documents in MongoDB.	4	K4
e.	Explain Apache Pig architecture and execution modes. Compare Pig with traditional databases.	5	K3

SECTION C**3. Attempt any one part of the following:****07 x 1 = 07**

a.	Describe Modern data analytic tools and Analytic processes tools.	1	K3
b.	Discuss Big Data security, compliance, auditing and protection.	1	K2

4. Attempt any one part of the following:**07 x 1 = 07**

a.	Describe the MapReduce framework and basics. How MapReduce works with example?	2	K2
b.	What do you mean by Input formats and Output formats?	2	K3

5. Attempt any one part of the following:**07 x 1 = 07**

a.	How HDFS stores, reads and writes files? Explain HDFS data flow.	3	K4
b.	Describe cluster specification, setup and installation.	3	K3

6. Attempt any one part of the following:**07 x 1 = 07**

a.	Introduce Scala programming language with Scala classes and objects.	4	K4
b.	Describe Fair scheduler and Capacity scheduler.	4	K3

7. Attempt any one part of the following:**07 x 1 = 07**

a.	Explain HiveQL with suitable examples. Describe table creation and querying data.	5	K3
b.	Explain schema design and advanced usage of HBase.	5	K4