



RAN-2411000503055001

M.Sc. (C.A) (Sem. - III) Examination October - 2025

Big Data and Hadoop (Paper - 905)

Time: 3 Hours]
[Total Marks: 70
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) All questions are compulsory.
- (3) Figure to the right indicate full marks.
- (4) Mention your options clearly.

Seat No.:

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Student's Signature

Q. 1 Answer The Following.
10

1. Which component of Hadoop manages resource allocation?
A) NameNode B) Resource Manager
C) DataNode D) TaskTracker
2. What is the default replication factor in Hadoop?
A) 1 B) 2
C) 3 D) 5
3. Hive is best suited for:
A) OLTP B) Data Warehousing
C) Real-time queries D) File transfer
4. MongoDB stores documents in:
A) Tables B) Collections
C) Schemas D) Rows
5. Which Hadoop command is used to list files in HDFS?
A) hdfs dfs-Is B) dir
C) list D) show
6. The output of Mapper in MapReduce is:
A) Final result B) Intermediate key-value pairs
C) Metadata D) Tables
7. ORC file format in Hive stands for
A) Optimized Row Columnar B) Object Relational Column
C) Ordered Row Cluster D) Open Row Collection
8. Pig Latin is:
A) Declarative B) Procedural
C) Object-Oriented D) None
9. Which component provides coordination in Hadoop ecosystem?
A) Hive B) Zookeeper
C) Oozie D) Pig
10. Which command is used to load data into an existing Hive table?
A) INSERT INTO
B) LOAD DATA INFILE
C) LOAD DATA LOCAL INPATH
D) IMPORT DATA

- Q. 2 Answer The Following. (Any Nine) 18**
1. List the 5Vs of Big Data.
 2. What is replication in MongoDB?
 3. State the role of NameNode.
 4. Write two features of Hive.
 5. Explain data locality in Hadoop.
 6. What is speculative execution?
 7. Write two functions of DataNode.
 8. Define Pig.
 9. Mention two advantages of NoSQL.
 10. What is Oozie?
 11. Explain schema-less nature of MongoDB.
 12. What is replication in MongoDB?
- Q. 3 Answer The Following. (Any Two) 14**
1. What is the purpose of HDFS in Hadoop?
 2. Explain the architecture of MongoDB. How does MongoDB handle dynamic queries, replication, and sharding?
 3. Discuss Hive architecture and explain its components.
- Q. 4 Answer The Following. (Any Two) 14**
1. Compare Hive vs RDBMS
 2. Explain Hadoop Ecosystem Components.
 3. Discuss data Loading and Manipulation in Hive.
- Q. 5 Discuss Following Case Study In Detail (Any Two) 14**
1. An e-commerce company wants to recommend products to customers using browsing/purchase history. Suggest a Hadoop-based solution.
 2. A weather forecasting organization collects large CSV datasets. Design a Map Reduce program to calculate average rainfall per year.
 3. A government agency wants to store and query large semi-structured datasets (XML/JSON). Suggest MongoDB-based approach.
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