



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 6th Semester Examination, 2024

CMSADSE04T-COMPUTER SCIENCE (DSE3/4)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

GROUP-A

1. Answer any **four** questions from the following: 2×4 = 8
- (a) Write down the advantages of Parquet over Avro files.
 - (b) What do you mean by data node and name node in Big data?
 - (c) What is Hive?
 - (d) How does big data differ from traditional data?
 - (e) Define the term "data analytics".
 - (f) What is data warehouse , and how is it used in big data analysis?

GROUP-B

- Answer any **four** questions from the following 8×4 = 32
2. (a) What are the five 'V's of big data? 4+4
(b) Explain Mapper and Reduce classes.
3. (a) Explain the purpose of HDFS in big data. 2+6
(b) Explain the main components of HDFS.
4. (a) Discuss the differences between structured, semi-structure and unstructured data, providing example of each in the context of big data. 6+2
(b) Explain the term materialized view.
5. (a) Write three key features of MongoDB. 3+4+1
(b) Explain four types of NoSQL in brief.
(c) What is sequence file in Hadoop?
6. (a) What is the purpose of JPS command in Hadoop? 2+3+3
(b) How does Hadoop protect data against unauthorised access?
(c) What is YARN and what are its main components?

7. Discuss the role of cloud computing in big data analytics. What are the advantages and challenges of using the cloud for big data? What is cloud computing? 2+4+2
8. Write any *two* questions from the following: 4+4
- (a) How does big data support population health management?
 - (b) What role does machine learning play in healthcare big data analytics?
 - (c) What would be the overall goals of big data in E-commerce?
 - (d) How does big data support fraud detection and prevention?

—x—