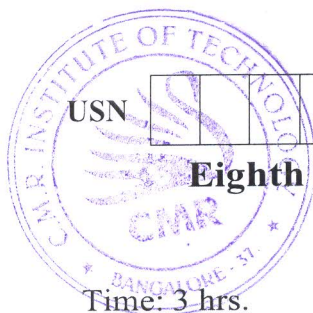


CBCS SCHEME



17CS82

Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024

Big Data Analytics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is HDFS? List all components of HDFS and explain any four components. (10 Marks)
- b. Explain fault tolerance and speculative execution in hadoop framework. (10 Marks)

OR

- 2 a. Explain the importance of the following :
i) Name node high availability ii) HDFS checkpoints and backups (10 Marks)
- b. Explain the following :
i) Terasort test ii) Managing Hadoop MapReduce Jobs (10 Marks)

Module-2

- 3 a. Explain the importance of Apache Sqoop data import and export methods. (10 Marks)
- b. Explain YARN application framework with a neat diagram. (10 Marks)

OR

- 4 a. Explain how Apache Flume is used to acquire data streams. (10 Marks)
- b. Explain different types of nodes defined in Oozie workflow. (10 Marks)

Module-3

- 5 a. How business intelligence plays a major role in decision making? Explain its types. (10 Marks)
- b. What is data warehouse? Explain its architecture with a diagram. (10 Marks)

OR

- 6 a. Why should organization invest in business intelligence solutions? What are potential business intelligence problems? (10 Marks)
- b. List and explain different methods used for data cleaning and preparation. (10 Marks)

Module-4

- 7 a. What is neural network? Explain design principles of an ANN. (08 Marks)
- b. Data about height and weight for a few volunteers is available. Create a set of clusters for the following data to decide how many size of T-shirt should be ordered.

Data Sample :

Height	Weight
185	72
170	56
168	60
179	68
182	72
188	77
180	71
180	70
183	84
180	88
180	67
177	76

(12 Marks)

OR

- 8 a. What are association rules? Explain the working of Apriori algorithm. (08 Marks)
 b. Consider the following dataset :

Student	Test Marks	Grade
1	95	85
2	85	95
3	80	70
4	70	65
5	60	70

- i) What linear regression equation best predicts statistics performance based on Math aptitude scores?
 ii) If a student made an 80 on aptitude test, what grade would we expect her to make in statistics? (12 Marks)

Module-5

- 9 a. Discuss the problems that can be addressed using text mining. (10 Marks)
 b. What is web mining? Explain its characteristics and three types of web mining. (10 Marks)

OR

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- 10 a. Explain Naïve Baye's algorithm. List the advantages and disadvantages of Naïve Baye's algorithm. (10 Marks)
 b. What is SNA? How is it different from other data mining techniques? (10 Marks)
