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Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 90406

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Sixth/Seventh Semester

Computer Science and Engineering

CS 8091 – BIG DATA ANALYTICS

(Common to: Computer and Communication Engineering/ Information Technology)

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Illustrate the need to promote the value of Big Data.

2. List down the characteristics of Big Data Applications.

3. How can the initial number of clusters for k means algorithm be estimated?

4. List the categories of clustering methods.

5. State the use of Apriori algorithm in data mining.

6. List down the types of recommendation system.

7. Compute the surprise number (second moment) for the stream 3,1,4,1,3,4,2,1,2. What is the third moment of this Stream?

8. Write down the features of graph analytics platform.

9. Differentiate SQL and NOSQL.

10. What is Sharding?

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PART B — (5 × 13 = 65 marks)

11. (a) (i) Describe in detail about 5 V's   (6)

    (ii) Illustrate Map Reduce with example   (7)

                              Or

    (b) Explain the significance of HDFS and its applications.   (13)

12. (a) Summarize the hierarchical clustering in Euclidean and non-Euclidean spaces with its efficiency.   (13)

                              Or

    (b) Explain in detail about Naïve Bayes Theorem, Classifier, Smoothing and Diagnostics.   (13)

13. (a) Describe the recommendation systems? Clearly explain the two applications for recommendation systems.   (13)

                              Or

    (b) Evaluate Apriori algorithm in detail for the following super market scenarios.   (13)

Transaction ID	Onion	Potato	Burger	Milk	Ghee
T1	1	1	1	0	0
T2	0	1	1	1	0
T3	0	0	0	1	1
T4	1	1	0	1	0
T5	1	1	1	0	1
T6	1	1	1	1	1

14. (a) (i) List some common online tools used to perform sentiment analysis.   (6)

    (ii) What do you understand by sentiment analysis?   (7)

                              Or

    (b) (i) Explain in detail about how data analysis used in stock market predictions.   (7)

    (ii) Describe in detail about the usage of data analysis in weather forecasting predictions.   (6)

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15. (a) With Suitable examples differentiate the applications structure, working and usage of different NoSQL Databases.   (13)

Or

     (b) Describe the system architecture and components of Hive and Hadoop.   (13)

PART C — (1 × 15 = 15 marks)

16. (a) Explain in detail about hybrid and knowledge based recommendation.

Or

     (b) Explain the procedure for installing R in your system. Describe any three packages which support predictive analysis.

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