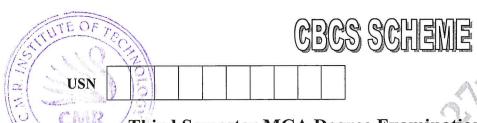
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20MCA352

# Third Semester MCA Degree Examination, July/August 2022 **Big Data Analytics**

Max. Marks: 100 Time: 3 hrs.

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

## Module-1

- Explain analysis process model with a neat diagram. (10 Marks) (10 Marks)
  - Describe the various methods to categorize the data.

- List and explain the satisfactory requirements of a good analytical model. (10 Marks) 2
  - Mention the different types of data sources for big data analytics and explain them.

(05 Marks)

Calculate the Z-scores and detect the outlier for the following data. Where mean  $\mu = 40$  and standard deviation  $\sigma = 10$ . Data = 30, 50, 10, 40, 60, 80. (05 Marks)

### Module-2

Discuss the critical components of Hadoop and their working along with a neat diagram. 3

(10 Marks)

What is predictive analysis? Why are they required? Discuss the leading trends of predictive (10 Marks) analysis.

Describe the Inter and Trans-firewall analytics with a neat diagram.

(10 Marks)

- Write a brief note on: b.
  - Crowd sourcing i)
  - Mobile Business Intelligence ii)

(10 Marks)

### Module-3

Explain the various open source technologies of Hadoop ecosystem.

(10 Marks)

b. Discuss the difficulties of implementing storage and analysis support for big data. (10 Marks)

List the differences between MapReduce and RDBMS.

(10 Marks)

- Write short note on:
  - Volunteer computing
  - Grid computing. ii)

(10 Marks)

### Module-4

- What is a memory block in HDFS? Explain block report, replication factor and rack awareness with respect to data node. (10 Marks)
  - b. Discuss any five HDFS commands.

(10 Marks)

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OR

- 8 a. Explain the architectural changes that are needed while replacing active name node with stand by name node. (10 Marks)
  - b. With a neat diagram, explain the anatomy of reading data from a file in HDFS. (10 Marks)

### Module-5

- 9 a. What is MapReduce? Sketch a neat diagram and explain the logical data flow in MapReduce. (10 Marks)
  - b. Write a short note on:
    - i) Map Reduce UI
    - ii) Hadoop logs.

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(10 Marks)

### OR

- 10 a. Write a Java MapReduce code to find maximum temperature from the weather data set.
  (10 Marks)
  - b. How does a MapReduce model works with a single reduce task? Explain with a neat diagram. (10 Marks)