Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 31542

M.C.A. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Elective

DS 4015 – BIG DATA ANALYTICS

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Big Data.
2. State any two modern data analytics tools.
3. Differentiate between stochastic and adaptive search methods.
4. Recall the importance of visualization techniques.
5. Define stream computing.
6. State estimating moments.
7. State the core components of Hadoop.
8. Define Vectors with an example.
9. List out the different types of R operators.
10. State Data frames with syntax.

PART B — (5 × 13 = 65 marks)

11. (a) Examine the challenges of conventional systems and describe the architecture of data analytic processes.

Or

(b) Briefly explain about any two sampling distribution with an example.

12. (a) Explain about Genetic algorithm and genetic programming.

Or

(b) Describe various interaction techniques and explain each with an example.

13. (a) (i) Exemplify estimating moments. (6)

(ii) Compare and contrast between stream computing and filtering stream. (7)

Or

(b) Apply any stream computing techniques for sentiment analysis for Twitter datasets.

14. (a) Explain Hadoop architecture with a neat diagram.

Or

(b) (i) Compare NoSQL databases and HDFS. (6)

(ii) Explain how private information inference attacks on social networks are prevented. (7)

15. (a) Explain recursion and replacement functions with an example.

Or

(b) Illustrate a simple calculator using R data structures.

PART C — (1 × 15 = 15 marks)

16. (a) Exemplify the application of bigdata to improve medical device innovation.

Or

(b) Illustrate the concept of anatomy of map reduce with the code determining the execution of map and reduce jobs separately. Mention the steps corresponding to each map phase during execution. The execution workflow must contain the following :

(i) What does the user gives?

(ii) How many map and reduce task?

(iii) How to launch map task?

(iv) Mention the flow of execution timeline.
