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

**Question Paper Code : 10517**

M.E./M.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Elective

Aeronautical Engineering

DS 4015 – BIG DATA ANALYTICS

(Common to: M.E. Aerospace Technology/M.E. Applied Electronics/M.E. Automobile Engineering/M.E. Big Data Analytics/M.E. Biomedical Engineering/M.E. Biometrics and Cyber Security/M.E. CAD/CAM/M.E. Communication Systems/M.E. Communication and Networking/M.E. Computer Aided Design/M.E. Computer Integrated Manufacturing/M.E. Computer Science and Engineering/M.E. Computer Science and Engineering (With Specialization in Artificial Intelligence and Machine Learning/M.E. Computer Science and Engineering (With Specialization in Networks)/M.E. Construction Engineering and Management/M.E. Digital Signal Processing/M.E. Electronics and Communication Engineering/M.E. Electronics and Communication Engineering (Industry Integrated)/M.E. Embedded System Technologies/M.E. Energy Engineering/M.E. Engineering Design/M.E. Environmental Engineering/M.E. Industrial Engineering/M.E. Industrial Safety Engineering/M.E. Infrastructure Engineering and Management/M.E. Internal Combustion Engineering/M.E. Manufacturing Engineering/M.E. Mechatronics/M.E. Medical Electronics/M.E. Mobile and Pervasive Computing/M.E. Multimedia Technology/M.E. Power Electronics and Drives/M.E. Power Systems Engineering/M.E. Product Design and Development/M.E. Software Engineering/M.E. Soil Mechanics and Foundation Engineering/M.E. Structural Engineering/M.E. Thermal Engineering/M.E. VLSI Design/M.E. VLSI and Embedded Systems/M.Tech. Biopharmaceutical Technology/M.Tech. Biotechnology/M.Tech. Chemical Engineering/M.Tech. Information Technology/M.Tech. Nano Science and Technology/M.Tech. Plastics Technology M.Tech. Remote Sensing and GIS/M.Tech. Textile Technology/M.Tech. Textile Technology (with Specialization in Textile Chemistry) Master of Computer Applications (2 Years))

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List any four Challenges of Conventional data processing system.

2. Define Prediction error.

3. List the different data types available.

4. Define Adaptive Search.

5. Define Bloom filter.

6. List the uses of the Decaying Window.

7. Give any four examples of Unstructured data.

8. List the characteristics of Big data.

9. Define Dataframe in R.

10. List any four String Manipulation functions using R.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the different types of Sampling Distributions and Re-Sampling.

Or

(b) Describe the steps involved in Analytic Process with an example.

12. (a) Explain Search by simulated Annealing with an example.

Or

(b) Discuss any three Data Visualization techniques in detail with an example.

13. (a) Explain the Counting Distinct Elements in a Stream with and example.

Or

(b) Discuss about the process involved in Stock Market Prediction.

14. (a) Demonstrate the steps involved in MapReduce computation in detail.

Or

(b) Discuss the methods available in Preventing Private Information Inference Attacks on Social Networks.

15. (a) Explain the Vectors and Matrices operating in R with an example.

Or

(b) Discuss the various control statements in R with an example.

PART C — (1 × 15 = 15 marks)

16. (a) Compare and Contrast Real-time Analytics Platform(RTAP) Applications and Real-Times Sentiment Analysis. For online Fraud detection application.

Or

(b) Consider that you have a new Medical Device Innovation component. Apply suitable Regulatory Science and Big Data techniques to Improve Medical Device Innovation performance.

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