**B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024**

Sixth Semester

**Artificial Intelligence and Data Science**

**20AIPW602 – BIG DATA ANALYTICS WITH LABORATORY**

Regulations - 2020

Duration: 3 Hours                                             Max. Marks: 100

## PART - A (10 × 2 = 20 Marks)
### Answer ALL Questions

| | | Marks | K–Level | CO |
|---|---|---|---|---|
| 1. | Define Big Data. | 2 | K1 | CO1 |
| 2. | List various types of Analytics. | 2 | K1 | CO1 |
| 3. | What are the features of MongoDB? | 2 | K1 | CO2 |
| 4. | Write short notes on CRUD operation process? | 2 | K1 | CO2 |
| 5. | How is the TTL command used? Give example syntax. | 2 | K1 | CO3 |
| 6. | List the various collection types in Cassandra. | 2 | K1 | CO3 |
| 7. | Define is Serialization. | 2 | K1 | CO4 |
| 8. | What are Hadoop Schedulers? | 2 | K1 | CO4 |
| 9. | What is scatter() function in python ? | 2 | K1 | CO5 |
| 10. | Write a python program using plot function for simple line plot. | 2 | K3 | CO5 |

## PART - B (5 × 13 = 65 Marks)
### Answer ALL Questions

| | | | Marks | K–Level | CO |
|---|---|---|---|---|---|
| 11. | a) | Explain Hadoop Architecture and its Components with neat diagram. | 13 | K2 | CO1 |
| | | **OR** | | | |
| | b) i) | List the importance of Big Data Analytics in Digital marketing. | 7 | K2 | CO1 |
| | ii) | Write a brief notes on Apache Hadoop. | 6 | K2 | CO1 |
| 12. | a) | Discuss the functions of MongoDB query language and database commands. | 13 | K2 | CO2 |
| | | **OR** | | | |
| | b) | Explain basic CRUD operations with examples in MongoDB. | 13 | K2 | CO2 |
| 13. | a) | Explain the various CQLSH commands with syntax and examples. | 13 | K2 | CO3 |
| | | **OR** | | | |

*K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create*

| | | | |
|---|---|---|---|
| b) i) Describe the various features of Cassandra | 6 | K2 | CO3 |
| ii) How data are imported and exported in Cassandra Databases. | 7 | K2 | CO3 |

14. a) Discuss in brief about the basic building blocks behind the design of Hadoop.     13   K2   CO4

**OR**

b) i) Explain the AVRO Serialization in Hadoop.     8   K2   CO4

ii) List the advantages of AVRO with an example.     5   K2   CO4

15. a) Explain the features of Gauge, Radar and Matrix chart.     13   K2   CO5

**OR**

b) Describe the features and purpose of the Box plots, Violin plot, Count plot an example.     13   K2   CO5

## PART - C (1 × 15 = 15 Marks)

16. a) Develop a line chart to visualize a data set of your choice and give the detailed explanation of observations from chart.     15   K3   CO6

**OR**

b) Use a Sample dataset for Non Performing Asset as your choice and select appropriate visualization methods to find an explanatory analytics among the NPA listed customers.     15   K3   CO6