



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

**Fifth Semester, Master of Computer Applications (MCA)**

**Semester End Examination; February - 2022**

**Big Data and Analytics**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

### UNIT - I

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|------|--|----|
| 1 a. | List and discuss the four elements of big data.                    | 10 |
|      | b. Describe the role of different job titles in data analytics.    | 10 |
| 2 a. | Explain the most common types of financial frauds.                 | 10 |
|      | b. With neat diagram, discuss displaying the architecture of HDFS. | 10 |

### UNIT - II

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|------|--|----|
| 3 a. | Explain logical flow of data in Map Reduce.                        | 10 |
|      | b. Discuss the uses of Map Reduce.                                 | 10 |
| 4 a. | Describe the working of the Map Reduce algorithm.                  | 10 |
|      | b. Discuss the points while designing a file system in Map Reduce. | 10 |

### UNIT - III

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|------|--|----|
| 5 a. | Explain interaction of layers in NOSQL and challenges against NOSQL databases. | 10 |
|      | b. Discuss with neat diagram CAP theorem.                                      | 10 |
| 6 a. | Differentiate relational data bases with NOSQL databases.                      | 10 |
|      | b. Discuss ACID property and alternative to ACID is BASE.                      | 10 |

### UNIT - IV

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|------|--|----|
| 7 a. | Explain Reporting. Give example.                                   | 10 |
|      | b. Describe categories of big data analytics, when analyzing data. | 10 |
| 8 a. | Discuss with neat diagram the analytic process.                    | 10 |
|      | b. Compare Analytics team and IT team.                             | 10 |

### UNIT - V

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|-------|---|----|
| 9 a.  | Discuss the various content types and five techniques used for visual data representaion. | 10 |
|       | b. Explain applications of data visualization.  | 10 |
| 10 a. | List and discuss five types of data visualization.  | 10 |
|       | b. Discuss commonly used data visualization tools.  | 10 |

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