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

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Computer Science and Engineering

Semester End Examination; Jan. / Feb. - 2021

Managing Big Data

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. | Explain the four versions of Big Data with example. | 8 |
| b. | What is Big Data? Explain structured, unstructured and semi-structured data in detail. | 10 |
| c. | Write down comparison between the internal and external source of data. | 2 |
| 2 a. | Discuss the use of big data in detecting fraudulent activities in insurance sector in detail. | 10 |
| b. | Discuss in detail the various types of analytics with suitable sketches. | 6 |
| c. | Explain some common types of financial frauds prevalent in the current business scenario. | 4 |

UNIT - II

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|------|---|----|
| 3 a. | Explain the working of Map Reduce in detail with a suitable example. | 7 |
| b. | List and explain the most commonly used cloud deployment models in detail. | 10 |
| c. | List the differences between parallel and distributed system. | 3 |
| 4 a. | Explain Hadoop multimode cluster architecture in detail. | 6 |
| b. | Discuss the features of cloud computing that can be used to handle Big Data. | 6 |
| c. | Discuss how data models and computing models are different with suitable examples and sketches. | 8 |

UNIT - III

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|------|---|----|
| 5 a. | Explain the working of Yarn architecture with neat diagram. | 10 |
| b. | Discuss in detail the various types of NoSQL data models with suitable example. | 10 |
| 6 a. | Explain three aspects of the CAP theorem. | 6 |
| b. | Explain the following: | |
| i) | Schema-less database | 9 |
| ii) | Materialized views | |
| iii) | Database sharding | |
| c. | Explain the advantages of Yarn with Map Reduce in Hadoop2. | 5 |

UNIT - IV

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|------|---|---|
| 7 a. | Discuss analytic process in detail with a relevant diagram. | 8 |
| b. | Explain the following: | |
| i) | Ensemble methods | 8 |
| ii) | Text data analysis | |
| c. | Explain some features of IBM SPSS. | 4 |

- 8 a. Explain the popular analytical tools given below;
- i) SAS 10
 - ii) The R project for statistical computing model
- b. Explain data and modern visualization tools in detail. 6
- c. Explain few additional characteristics of Big Data analysis. 4

UNIT - V

- 9 a. Explain `read.csv()` and `read.table()` commands in detail. 6
- b. Explain `C()` command in detail. 5
- c. Explain handling data in R workspace. 9
- 10 a. Discuss storing and calculating values in R in detail. 6
- b. Explain `write.table()` and `write.csv()` command in detail. 6
- c. Explain the different ways of script execution in R GUI and R studio. 4
- d. Discuss the steps to copy the data from a spread sheet and read it in R. 4

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