



P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Third Semester, Master of Computer Applications (MCA)
Semester End Examination; February / March - 2022
Big Data and Analytics

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Describe the significance and importance of Big Data and Analytics.

CO2: Analyze the HADOOP and Map Reduce technologies associated with Big Data analytics.

CO3: Understand the impact of big data for business decisions and strategy.

CO4: Formulate and use appropriate models of data analysis to solve hidden solutions to business-Related challenges.

CO5: Interpret data findings effectively to any audience visually and in written formats.

Note: I) Answer any FIVE full questions, selecting ONE full question from each unit.**II) Any THREE units will have internal choice and remaining TWO unit questions are compulsory.****III) Each unit carries 20 marks.**

Q. No.	Questions	Marks	BLs	COs	POs
UNIT - I					
1 a.	What is Big Data? List and explain the types of Big data.	10	L1	CO1	PO1,2,5,7
b.	Illustrate the three types of Big data analytics. Write the advantages of Big data analytics.	10	L2	CO1	PO1,2,5,7
OR					
1 d.	What are the elements of Big data? Explain.	4	L1	CO1	
e.	How to prevent Fraud using Big data analytics? Write the most common types of Financial frauds.	6	L2	CO1	
f.	With diagram, explain the working of Map-Reduce. Write the features of HDFS.	10	L4	CO1	
UNIT - II					
2 a.	Describe the principle features of Map-Reduce. Write the logical flow of data in Map-Reduce.	10	L1,4	CO2	PO1,2,4,11
b.	List the techniques to optimize Map-Reduce jobs. Describe the installation steps of HBase.	10	L2	CO2	PO1,2,4,11
UNIT - III					
3 a.	With diagram, explain CAP theorem and its three important aspects.	10	L2	CO3	PO1,2,3,6,8,12
b.	What is the purpose of sharding? Write the benefits and challenges of NoSQL.	10	L3	CO3	PO1,2,3,6,8,12

Contd... 2

OR

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| 3 d. Illustrate the four types of NoSQL data models. | 10 | L2 | CO3 |
| e. Describe materialized views and ACID transactions guarantee four properties. | 10 | L2 | CO4 |

UNIT - IV

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| 4 a. Compare reporting and analysis in Big data. | 5 | L4 | CO4 | PO1,3,5,8,9 |
| b. With diagram, explain phases of analysis process. | 10 | L2 | CO4 | PO1,3,5,8,9 |
| c. List and explain the types of analytics. | 5 | L1 | CO4 | |

UNIT - V

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| 5 a. Explain the techniques used for visual data representation. | 10 | L3 | CO5 | PO2,3,4,9,12 |
| b. With suitable example, explain the application of data visualization. | 10 | L3 | CO5 | PO2,3,4,9,12 |

OR

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| 5 d. List and explain the types of data visualization. | 10 | L1 | CO5 |
| e. With suitable example, illustrate analytical techniques used in Big data visualization. | 10 | L2 | CO5 |

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