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

# Question Paper Code:U2303

M.E. DEGREE EXAMINATION, APRIL / MAY 2025

Second Semester

Computer Science and Engineering

21PCS203- BIG DATA ANALYTICS

(Regulations 2021)

Duration: Three hours | Maximum: 100 Marks

Answer ALL Questions

PART – A (5 x 20 = 100 Marks)

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|---|---|---|---|---|
| 1. | (a) | Define Big data. What is the Four V's of Big data? Give two examples of big data Case studies. Indicate which V's are satisfied by these case studies. | CO1- U | (20) |
| | | Or | | |
| | (b) | Illustrate the Structure of Big data. Compare and Contrast big data Architecture from the Traditional one? | CO1- U | (20) |
| 2. | (a) | Why NoSQL is required in big data? List out the advantages of NoSQL and consider the case study of employee database and apply any one of NoSQL commands. | CO2- App | (20) |
| | | Or | | |
| | (b) | Classify the NoSQL data bases in detail with its case study. | CO2- App | (20) |
| 3. | (a) | What is HDFS? Dissect the major blocks in HDFS architecture with Use cases of Marketing and Sales Applications | CO1- U | (20) |
| | | Or | | |
| | (b) | Why Hadoop is called Big Data technology? Explain the Components and Application development of Hadoop. | CO1- U | (20) |

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|---|---|---|---|---|
| 4. | (a) | Write Map Reduce Pseudo code to multiply two matrices. Illustrate the procedure on the following matrices $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ $B = \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$ | CO2- App | (20) |
| | | Or | | |
| | (b) | Consider a collection of literature survey made by a researcher in the form of a text document with respect to cloud and big data analytics. Using Hadoop and MapReduce, write a program to count the occurrence of predominant key words. | CO2- App | (20) |
| 5. | (a) | Explain the Cassandra data model in detail. | CO1- U | (20) |
| | | Or | | |
| | (b) | Illustrate Hive Architecture and Installation in detail. | CO1- U | (20) |