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## T.E. (Information Technology)

## DATA SCIENCE AND BIG DATA ANALYTICS

## (2019 Pattern) (Semester-II) (314452)

*Time : 2½ Hours]*  *[Max. Marks : 70*

*Instructions to the candidates:*

*1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*

*2) Neat diagrams must be drawn wherever necessary.*

*3) Figures to the right indicate full marks.*

*4) Assume suitable data, if necessary.*

**Q1)** a) i) Explain Google File system and its advantages. **[5]**

ii) Explain ETL in Big data. **[5]**

b) Explain Hadoop distributed file system. **[8]**

**OR**

**Q2)** a) i) Write 5 Hadoop Shell commands. **[5]**

ii) Explain Role Job tracker and Task Tracker in Hadoop Architecture. **[5]**

b) Explain Map Reduce with proper diagram for word count example. **[8]**

**Q3)** a) Explain different types of Big Data Analysis techniques. **[8]**

b) i) Explain Different Data Transformation techniques. **[3]**

ii) What is dataset? Explain with python syntax of 2 different types of dataset used in Big data. **[6]**

**OR**

**Q4)** a) i) Explain Mean, Mode and variance and standard deviation with suitable example. **[8]**

ii) Explain Data Standardization. **[3]**

b) Draw and explain Architecture of HIVE. **[6]**

*P.T.O.*

*Q5)* a) i) How data visualization help Big data Analytics. **[4]**

ii) List the conventional Data visualization tools. Explain any Two. **[6]**

b) Explain data visualization with the help of example? What are the advantages of data visualization? **[8]**

OR

*Q6)* a) Explain any 4 Types of data visualization with example. **[8]**

b) i) Explain different data visualization tools. **[6]**

ii) Explain Data Visualization with Tableau. **[4]**

*Q7)* a) Explain Text mining with example. **[8]**

b) Explain Big Data Analytics Challenges in brief. **[9]**

OR

*Q8)* a) Explain four Big Data use cases. **[8]**

b) Explain types of Mobile Analytics. **[9]**

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