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| Question Paper Code | 12385 |
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Third Semester

Artificial Intelligence and Data Science

20AIPW301 - FUNDAMENTAL OF DATA SCIENCE WITH LABORATORY

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. List various structured data tools. | <i>2,K1,CO1</i> |
| 2. What is the difference between Big Data and Data Science? | <i>2,K1,CO1</i> |
| 3. What type of information can be imported from a web page? | <i>2,K2,CO2</i> |
| 4. What is Data Acquisition? | <i>2,K2,CO2</i> |
| 5. What is Data Transformation? | <i>2,K2,CO3</i> |
| 6. What is High Dimensional Data? | <i>2,K2,CO3</i> |
| 7. List out the some of the most popular data cleaning tools. | <i>2,K1,CO4</i> |
| 8. State the goals of data wrangling. | <i>2,K1,CO4</i> |
| 9. Define CRISP-DM methodologies. | <i>2,K1,CO5</i> |
| 10. Mention the applications used in data science. | <i>2,K1,CO6</i> |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

- | | |
|--|-----------------|
| 11. a) (i) Explain various levels of Data. | <i>7,K2,CO1</i> |
| (ii) Differentiate Data Science with Big Data. | <i>6,K2,CO1</i> |

OR

- | | |
|---|------------------|
| b) Define data science. Discuss the applications of data science with examples. | <i>13,K2,CO1</i> |
|---|------------------|

- | | |
|--|------------------|
| 12. a) How can you sum up the Rows and Column number quickly in the Excel sheet? | <i>13,K2,CO2</i> |
|--|------------------|

OR

- | | |
|---------------------------|-----------------|
| b) Discuss about: | |
| (i) Data frames. | <i>7,K2,CO2</i> |
| (ii) Graphs and networks. | <i>6,K2,CO2</i> |

- | | |
|---|------------------|
| 13. a) Describe Principal Component Analysis. | <i>13,K2,CO3</i> |
|---|------------------|

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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OR

b) Explain Data Modeling Process. *13,K2,CO3*

14. a) Elaborate the Data Cleaning and Preliminary Data Analysis with an example. *13,K2,CO4*

OR

b) Explain data munging and modeling tools in detail. *13,K2,CO4*

15. a) Explain the different types of data analytics methodologies used in data science. *13,K2,CO5*

OR

b) Discuss the following

(i) SMAM Model. *7,K2,CO5*

(ii) ASUM – DM Model. *6,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the relevance of data science in finance and economy. *15,K2,CO6*

OR

b) Describe about plotting and visualization concepts in python with suitable code and examples. *15,K2,CO6*