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Question Paper Code	12853
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B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

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

	Marks	K-Level	CO
1. What is data science?	2	K1	CO1
2. Name some areas or domains in which data science is being used.	2	K1	CO1
3. What are the types of structured and unstructured data?	2	K1	CO1
4. Define Data Acquisition.	2	K1	CO3
5. What is the need for Data Frames?	2	K1	CO3
6. List the 3 rules for VLOOKUP.	2	K2	CO4
7. Why Data Cleaning is needed? Mention some Data cleaning tools in data science.	2	K2	CO5
8. What is advanced data visualization? Give Examples.	2	K1	CO5
9. What are the steps involved in big data life cycle.	2	K2	CO6
10. List some applications of Data Analytics.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) i) How Does Data Science Relate to Other Fields?	7	K2	CO1
ii) Show the Relationship between Data Science and Information Science.	6	K2	CO1
OR			
b) Explain Data Pre-Processing in detail with all the needed steps.	13	K2	CO1
12. a) Explain the use of principal component analysis algorithm in Data Science with the steps involved in it.	13	K2	CO3
OR			
b) Describe the methods of data representation with example for each type.	13	K2	CO3
13. a) Illustrate the way to import data into Spreadsheet from different data sources.	13	K2	CO4

OR

b) Describe how Data Visualization can be done through Spreadsheet using Pivot Tables and Charts. 13 K2 CO4

14. a) Explain about Data Munging in detail. 13 K2 CO5

OR

b) What is the Need for Data Visualization? Make use of various visualization tools. 13 K2 CO5

15. a) Explain the different phases of CRISP and SEMMA Methodology. 13 K2 CO6

OR

b) Define Data Privacy and why it is important in data science? Examine how data privacy is managed and preserved in data science? 13 K2 CO6

PART - C (1 × 15 = 15 Marks)

16. a) Distinguish different data types mentioned in data science and explain the four levels of data. 15 K4 CO2

OR

b) Examine the life cycle of big data with neat diagram. 15 K4 CO2