



UNIVERSITY OF NORTH BENGAL

MDC 1st Semester Examination, 2024

**UPOAMDC11007-FUNDAMENTALS OF DATA SCIENCE**

Time Allotted: 2 Hours 30 Minutes

Full Marks: 60

*The figures in the margin indicate full marks.*

**GROUP-A**

**Answer any four of the following**

$3 \times 4 = 12$

1. What is data ethics?
2. What is web scraping?
3. Define supervised learning.
4. Define API.
5. What is data retrieval?
6. What is data cleaning?

**GROUP-B**

**Answer any four of the following**

$6 \times 4 = 24$

7. What are the benefits of data governance?
8. What are some of the challenges users face when protecting their online privacy?
9. List down the steps to extract / obtain data from API?
10. Explain briefly the “for loop” and “while loop” in R/Python.
11. Write down the difference between data cleaning and data transformation.
12. Discuss the working procedure of decision tree.

**GROUP-C**

**Answer any two of the following**

$12 \times 2 = 24$

13. Discuss some of the tools that will be used in building data analysis software.
14. Describe what data analytics is and the key steps in the data analytic process.
15. What is the significance of line fitting? Discuss the algorithm of least square method with an example.
16. Explain the K-fold cross validation scheme with a suitable diagram.

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