

QP CODE: D2BCS2502	(Pages: 2)	Reg. No :
		Name :
SECOND SEMESTER FYUGP EXAMINATION, APRIL 2026 (Regular/Improvement/Supplementary) Discipline Specific Core (DSC) Courses - Minor CSC2MN102 : Introduction to Data Science (Credits: 4)		
Time: 2 Hours	Maximum Marks: 70	
Section A		
Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)		
1. What is the difference between population and sample in statistics?	BL1	CO1
2. Comment on semi-structured data. Provide an example.	BL1	CO1
3. What is a pie chart?	BL1	CO3
4. Explain the importance of removing duplicate records in a dataset.	BL3	CO2, CO6
5. How would you handle a dataset with mixed data types like numerical and categorical?	BL1	CO1, CO2, CO6
6. How is the k-NN algorithm used for regression tasks?	BL2	CO4
7. What is the role of model training in machine learning?	BL2	CO6
8. Discuss the differences between classification and regression problems in supervised learning.	BL2	CO1, CO4
9. Give an example of an application of supervised learning.	BL3	CO4
10. What is model evaluation in machine learning, and why is it important?	BL2	CO6
Section B		
Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)		
11. Explain how descriptive data analysis helps summarize and describe datasets.	BL1	CO2
12. How does reinforcement learning differ from supervised and unsupervised learning?	BL2	CO5
(PTO)		

13.	Explain how clustering algorithms can be used to group similar data points.	BL2	CO5
14.	Explain how unsupervised learning techniques can be used to identify similarities among data points. Provide examples.	BL2	CO5
15.	Define supervised learning and differentiate it from unsupervised learning.	BL1	CO4
16.	Explain how Naive Bayes is used in spam filtering. How does the algorithm classify emails as spam or not spam?	BL2	CO4
17.	Explain the difference between simple and multiple linear regression.	BL1	CO4
18.	What is Naive Bayes Classifier? Explain its important advantages, disadvantages and applications for the same.	BL2	CO4

Section C

Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)

19.	What is descriptive data analysis? Explain the types of descriptive data analysis with suitable examples.	BL2	CO2
20.	Discuss the importance of data visualization in data analysis. Provide examples of at least two visualization techniques and their use cases.	BL2	CO3

CO : Course Outcome

BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)