

**D 141105**

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER B.VOC. DEGREE EXAMINATION, APRIL 2026**

Data Science and Analytics

SDC 4DS 16—INTRODUCTION TO MACHINE LEARNING

(2021 Syllabus)

Time : Two Hours and a Half

Maximum : 80 Marks

**Section A (Short Answer Type Questions)***All questions can be answered, each correct answer carries a maximum of 2 marks.**Ceiling 25 marks.*

1. Describe about feature selection.
2. Analyse the role of  $k$  in  $k$ -nearest neighbour.
3. State Bayes rule.
4. Define deep learning.
5. Describe about lazy learning.
6. Give two applications of deep learning.
7. Describe about normal distribution.
8. Describe perceptron.
9. Describe about conditional probability.
10. How do machines learn ?
11. Mention about ordinary least squares estimation.
12. Describe about divide and conquer strategy.
13. Describe the inspiration behind neural networks.
14. Explain about categorical variables.
15. Describe about backpropagation algorithm.

**Turn over**

**Section B (Paragraph Type Questions)**

*All questions can be answered, each correct answer carries a maximum of 5 marks.  
Ceiling 35 marks.*

16. Explain about dimensionality reduction.
17. Explain about  $k$ - Nearest Neighbour.
18. Explain about Decision trees and rules.
19. Describe about Cost function.
20. Describe about Principal Component analysis
21. Describe about probability and joint probability.
22. Differentiate simple linear regression and multiple linear regression.
23. Describe about Neural networks.

**Section C (Essay Type Questions)**

*Answer any **two** questions, correct answer carries 10 marks.*

24. Explain mean, median and mode.
25. Explain about Naïve Bayes theorem and explain each of its terms.
26. Explain about Activation functions and any *two* examples.
27. Explain about Machine learning its types and how do machines learn.

(2 × 10 = 20 marks)