

Date of performance: - 6/2/2024

Date of submission: - 16/2/2024

**DATTA MEGHE COLLEGE OF ENGINEERING**  
**DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE**

MACHINE LEARNING

CLASS: -TE Div NA

Assignment 1

Q.No	Question	CO Covered	BT Level																
Q.1	Compare Supervised and unsupervised learning	CO1	L2																
Q.2	For the problem statement of identifying true sick and predicted sick, following confusion matrix values are given TP=40, TN=900, FP=30, FN=10. Calculate Precision, Accuracy, F1 score, Recall	CO1	L3																
Q.3	Find Eigen values and Eigen vectors of the matrix.  $A = \begin{vmatrix} -9 & 4 & 4 \\ -8 & 3 & 4 \\ -16 & 8 & 7 \end{vmatrix}$	CO2	L5																
Q.4	Diagonalize  $\begin{vmatrix} 2 & 0 & 2 \\ -1 & 2 & 1 \\ 0 & 1 & 4 \end{vmatrix}$	CO2	L5																
Q.5	Explain multivariate regression with an example	CO3	L5																
Q.6	The following table shows Mid-term and Final exam marks of students for DBMS. Plot the best fit regression line, showing data point on the same line. <table><tr><th>Mid-term exam (x)</th><th>Final exam (y)</th></tr><tr><td>72</td><td>84</td></tr><tr><td>50</td><td>63</td></tr><tr><td>81</td><td>77</td></tr><tr><td>74</td><td>78</td></tr><tr><td>94</td><td>90</td></tr><tr><td>86</td><td>75</td></tr><tr><td>59</td><td>49</td></tr></table>	Mid-term exam (x)	Final exam (y)	72	84	50	63	81	77	74	78	94	90	86	75	59	49	CO3	L5
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72	84																		
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R1 (2 Marks)	R2 (2 Marks)	R3 (1 Marks)