24/5/24

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TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

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Term End Examination

May/June 2024

CET3006B - Machine Learning

Question Paper ID: 037505

Faculty/School	School of Computer Science and Engineering	**Term**	Semester VI
Program	TY B.Tech CSE	**Duration**	**1 Hours 30 Minutes**
Specialization	-	**Max. Marks**	**40**

Section - 1 (8 X 5 Marks) 6
Answer any 8 questions

1	Explain the different steps in feature engineering?	**5 marks**	CO1	Understanding
2	What is bias and variance? Explain bias variance trade off with a graph.	**5 marks**	CO2	Understanding
3	What is hierarchical clustering? Brief different types of hierarchical clustering techniques and the linkage methods used.	**5 marks**	CO3	Understanding
4	Explain in brief below points related to DBSCAN algorithm with visualization. 1) Core Point 2) Border Point 3) Noise Point 4) Density Edge 5) Density Connected	**5 marks**	CO3	Analysing
5	Explain in brief: 1) CURE clustering 2) Spectral clustering	**5 marks**	CO3	Understanding
6	Discuss the algorithm of Hidden Markov model in machine learning.	**5 marks**	CO3	Analysing
7	Number of man-hours and the corresponding productivity (in units) values are given below. Fit a simple linear regression equation Y = mx+b applying the method of least squares.	**5 marks**	CO3, CO4	Evaluating
8	Write short note on 1. Lasso regression 2. Ridge Regression	**5 marks**	CO3	Understanding

Man-Hours:	3.6	4.8	7.2	6.9	10.7	6.1	7.9
Productivity (in units):	9.3	10.2	11.5	12	18.6	7.2	8.3

1, 3, 4, 8, 9, 10, 6, 7

(6 25)

9	What is Transfer Learning? Explain with block diagram and example.	**5 marks**	CO4	Applying
10	What are the different elements of reinforcement learning? Explain with example.	**5 marks**	CO4	Applying

END OF QUESTION PAPER