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Estd. in 2001
ENGINEERING & TECHNOLOGY
Autonomous College Affiliated to University of Mumbai
Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra(GoM)
Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y. 2019-20
Amongst Top 200 Colleges in the Country, Ranked 191st in NIRF India Ranking 2019 in Engineering College category
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• Institute Accredited by National Assessment and Accreditation Council (NAAC), Bangalore

END SEMESTER EXAMINATION, DECEMBER 2022
T.T. SEMESTER V (CBCGS-HME 2020)

Branch:	AIML	**Q.P. Code:**	35111C0043
Subject:	Fundamentals of Machine Learning	**Duration:**	**2 hours**
Subject Code:	PCC-AIML 503	**Max. Marks:**	**60**

Instructions: **1. All sections are compulsory**
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary and state the assumptions clearly.

Section-I **Short Answer Questions (Answer any 05 questions out of 06)** **(10 Marks)**

(Fundamental, Core Types)

Q. No.		Marks	CO	RBT Level	PI
1	Define Supervised Learning and Give two examples	2	1	L1	1.6.1
2	Summarize Dimensionality reduction.	2	5	L2	2.5.1
3	Define the term Variance?	2	3	L1	1.6.1
4	List down the Steps in developing ML applications.	2	1	L1	2.5.2
5	What is Version space? Give an explanation..	2	1	L2	2.5.1
6	Outline the use cases of Linear Regression.	2	2	L2	1.6.1

Section-II **Descriptive Answer Questions(Answer any 04 out of 06)** **(20 Marks)**

(Descriptive, Comprehension Types)

1	Examine the probability of dangerous Fire when there is Smoke using naïve bayes. Let's say: the probability of dangerous fires is rare (1%) but smoke is fairly common (10%) due to barbecues, and 90% of dangerous fires make smoke Find the probability of dangerous Fire when there is Smoke?	5	3	L4	2.6.3
2	Explain Feed forward Neural Network in detail.	5	3	L4	1.7.1
3	Identify the differences between Bagging and Boosting ?	5	3	L3	4.6.2
4	Analyze the trade off between bias and Variance with the help of diagram.	5	3	L4	2.8.4
5	Interpret how regularization works with an example.	5	3	L5	2.7.1
6	Infer K fold cross validation with respect to overfitting problem.	5	3	L4	1.7.1

Section-III Long Answer Question (Answer any 03 out of 05)
(Application, Analytical, Evaluation, Design Type)

1	Distinguish between Generative classifiers and Discriminative Classifiers? Name some examples of each one.	10
2	Apply Candidate Elimination algorithm on the given dataset and find the resultant hypothesis.	10
3	Determine the significance of Dimensionality Reduction using PCA algorithm.	10
4	Explain how k-Medoids Clustering Algorithm works by giving an example.	10
5	Analyze the assumptions of Linear regression.	10

Example	Citations	Size	InLibrary	Price	Editions
1	Some	Small	No	Affordable	One
2	Many	Big	No	Expensive	Many
3	Many	Medium	No	Expensive	Few
4	Many	Small	No	Affordable	Many