

**INDUS UNIVERSITY**  
**INDUS INSTITUTE OF TECHNOLOGY AND ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING**

**Subject Name : Machine Learning**

**Subject code : CS0701**

**Semester : 7<sup>th</sup>**

**Department: CSE**

**Unit : 1**

**A/C Year : 2024/25**

**Date: 12/8/24**

**Submission Date: 21/8/24**

**Assignment-1**

1. Define Machine Learning. Explain with examples why machine learning is important.
2. Explain the General-to-Specific Ordering of Hypotheses
3. Define Consistent Hypothesis and Version Space.
4. Write the candidate elimination algorithm and illustrate with an example.
5. What is Ensemble Learning? List Ensemble Learning Methods.
6. Write FIND-S algorithm and explain with an example given below.

Example	Color	Toughness	Fungus	Appearance	Poisonous
1	Green	Hard	No	Wrinkled	Yes
2	Green	Hard	Yes	Smooth	No
3	Brown	Soft	No	Wrinkled	No
4	Orange	Hard	No	Wrinkled	Yes
5	Green	Soft	Yes	Smooth	Yes
6	Green	Hard	Yes	Wrinkled	Yes
7	Orange	Hard	No	Wrinkled	Yes

7. Write the final version space for the below mentioned training examples using candidate elimination algorithm.

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