**Machine Learning**

**Question Bank**

**Chapter – 1 (PPT 1.1, 1.2)**

1. Give the difference between ML and traditional programming.
2. What are the key elements of ML?
3. Explain the types of learning.
4. What is the goal of inductive learning?
5. What is the algorithm of ML system?
6. Explain Inductive learning.
7. When should we use inductive learning?
8. Give the 2 perspective of inductive learning.
9. Explain the Framework of inductive learning.
10. Give any 2 issues of ML.
11. What are the 3 concerns of hypothesis space?
12. Give the 3 properties to choose ML algorithm.
13. Explain the learning algorithms of Machine Learning.
14. What are the challenges in Machine Learning?
15. Give any 3 applications of ML.
16. Explain in detail the Learning methods of ML.

**Chapter – 2 (PPT Lecture -3)**

1. Difference between Designing and Learning.
2. Explain the categorization of Learning.
3. What is NO-Free Lunch theorem?
4. What is the structure of Learning?
5. Explain Reinforcement Learning with the diagram.
6. Give the scenario of reinforcement learning.
7. What are the basic terminology of Reinforcement learning?

**Chapter – 3 (PPT Session-7)**

1. Explain Supervised Learning.
2. Explain Un-supervised Learning.
3. Explain Semi-supervised Learning.
4. Define Bias and Variance.
5. Define Overfitting and Underfitting.
6. What is Generalization?
7. What is Linear Algorithms?
8. Explain Linear Regression.
9. Explain Linear Regression Model.
10. What do you mean Gradient Descent?
11. How to make predictions in Linear regression?
12. Give the steps to create a Linear ML model.

**Chapter-4 (PPT Session -8)**

1. What is Simple Linear Regression?
2. Give the procedure and the calculation of Linear Regression model that predicts the target value.
3. What is Slope and Intercept?
4. How errors are calculated in Linear Regression?
5. Give the formula for finding the prediction values?

**Chapter -5 (PPT Session -10)**

1. Explain the characteristic of non-linear algorithm.
2. Explain CART.
3. How predictions are made through decision tree?
4. How CART model can be created from DATA?
5. Define: Gini cost.
6. What do you mean by stopping criterion in CART?
7. Explain Tree Pruning.
8. How Non-linear algorithm different from Linear algorithm?
9. When do we use non-linear algorithm to make a system learn?
10. What is partitioning in Decision Tree?

**Chapter-6 (PPT Session-13)**

1. Explain Generalization in ML.
2. What is statistical Fit?
3. Explain Overfitting, Underfitting and Good fitting.
4. What do you mean by Limit Overfittng?
5. How Precision and Recall calculated in ML?
6. Define Training set and Test set.

**Chapter -7 (PPT Session-17)**

1. What are the steps to build ML in a programming language?
2. What are the libraries used to do visualization?
3. How data is loaded in python?
4. What are plotting of data?