BS IT 5th Section A Syllabus IT-505(Machine Learning)

Theory

1. Machine Learning
   - Definition
   - Types (Supervised Learning, Unsupervised Learning)
2. Linear Regression with One Variable
   - Model Representation
   - Cost Function
3. Decision Tree
   - Decision Tree Classifier
     i. Entropy and Gini Index
     ii. Information Gain
   - Datasets
     i. Train
     ii. Test
     iii. Validation
   - Preprunning and Postprunning
     i. Under Fitting
     ii. Overfitting
4. SVM
   - Margins
   - Hyperplane
   - Pros and Cons
   - Classification Techniques

Practical:

1. Model Representation (Linear Regression)
   - Model Formula
   - Plot Data points
   - Compute Model Output
2. Cost Function
   - Compute Cost
3. Gradient Descent
   - Goals
   - Tools (Name of Python Libraries Used)
   - Implementation of Gradient Descent
   - Compute Gradient
   - Prediction
   - Plotting