



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AIML)
AL3451 MACHINE LEARNING
CIA I -- QUESTION BANK

PART A

1. Define Machine learning.
2. Write some examples of machine learning applications.
3. Mention the various features of machine learning.
4. Mention the merits of Bayesian linear regression.
5. What is gradient descent? How Gradient-Descent is useful in machine learning.
6. Distinguish between Random Forest and Support Vector Machine.
7. Compare and contrast linear regression and logistic regression.
8. What do you mean by hypothesis space?
9. What is the objectives of machine learning?
10. When is supervised learning is better than unsupervised learning?

PART B

1. Elaborate on PAC learning. Give an example
2. i) Discuss in detail about Bias-Variance trade-off (6)
ii) Explain about VC dimension (7)
3. Explain the gradient descent algorithm and its applications in optimizing their regression models.
4. Explain about how optimal Hyperplane differs from other Hyperplanes. Elaborate on how SVM is able to achieve this?
5. Discuss the Supervised and unsupervised learning with example.
6. Write a short notes on Linear classification models
 - i) Linear Discriminant Analysis (LDA) (7)
 - ii) Logistic regression (7)
7. Discuss the following
 - i) Vapnik chervonenkis VC dimension
 - ii) Probably Approximately correct PAC Learning
8. With an example explain the decision tree concepts in detail
9. By the method of least squares find the straight line to the data given below

X	5	10	15	20	25
Y	16	19	23	26	30