**ASSIGNMENT 3**

**Machine Learning**

1. Explain Bayesian belief network and conditional independence with example.
2. What are Bayesian Belief nets? Where are they used?
3. Explain Naïve Bayes Classifier with an Example.
4. Define the following terms with respect to K - Nearest Neighbour Learning :<br/>i) Regression ii) Residual iii) Kernel Function.
5. Explain the concept of EM Algorithm. Discuss what are Gaussian Mixtures.
6. Explain Naïve Bayes Classifier with an Example
7. How do you classify text using Bayes Theorem
8. What is the nature of the hypothesis space H implicitly considered by the k-nearest neighbour algorithm?
9. Define the term entropy and explain Information gain and Gini Index.
10. Explain Ebow Method?
11. What is the difference between Mean Absolute Error (MAE) vs Mean Squared Error (MSE)?
12. How Do You Design an Email Spam Filter?
13. Explain the different types of Gradient Descent.
14. What is the difference between Forward propagation and Backward Propagation in Neural Networks?
15. Explain Gradient Descent and its types.
16. Explain The Bayes’ Box.
17. Which Is Better Bayesian Or Frequentist Statistics?
18. What is Hierarchical method?
19. What are the requirements of cluster analysis?
20. State the categories of clustering methods?
21. What are the requirements of clustering?
22. What do you mean by Cluster Analysis?
23. Explain the concept of EM Algorithm.
24. Explain the concept of Bayes theorem.
25. What type of problems are best suited for decision tree learning
26. Discuss the effect of reduced Error pruning in decision tree algorithm