SAPTHAGIRI NPS UNIVERSITY
UNMATCHED EXCELLENCE, UNLIMITED POTENTIAL

Course Title: Fundamentals of AI and ML
Course Code: 24BEPHY106
Question Bank -Module 4

2 marks

1. Define Machine learning.
2. List all the types of Machine learning.
3. List the uses of decision tree
4. Assume that you are provided with a set of images of plum and cherry. If you want to identify whether the given fruit image is of plum and cherry, choose a machine learning algorithm. Justify your choice.
5. Define cross validation
6. Define regularization techniques in machine learning

5 marks

1. Define Machine learning. Briefly explain the types of Machine learning.
2. Differentiate between Supervised and Unsupervised machine learning algorithms.
3. Explain the following with suitable example for each.
   a. Linear Regression b. Logistic Regression
4. Ram's credit card has been lost, hence he is facing major issue in his financial sector of life also fraud has been taken place. So, in this situation which type of machine learning can be applied. Justify your selection.
5. What is Pruning in decision tree and how is it done.
6. Which model would better to predict booking prices on Airline; linear regression or random forest. Justify your answer.
7. Illustrate and explain machine learning lifecycle.
8. Differentiate regression and classification
9. List the steps required to select suitable machine learning algorithm or model depending on the problem.
10. Describe hyperparameter optimization
11. Describe ensemble learning.
12. Describe k-NN algorithm
13. Descrive SVM algorithm

10 marks

1. Define Machine learning. Briefly explain the types of Machine learning.

2. Explain Decision Tree classification with an example. Why do Decision tree often suffer with overfitting problem.
3. Explain the following with real life application:

   a)Supervised Learning

   b)Unsupervised Learning

   c)Reinforcement Learning
4. Define nonparametric models in machine learning. Describe any 5 nonparametric models.
5. Decribe the steps for developing Machine Learning Systems.