

## MODULE III

1. Explain Confusion matrix with an example.
2. Differentiate precision and recall with an example.
3. Explain the concept of accuracy and precision.
4. Explain the following: a) True positive rate b) True negative rate c) False positive rate  
d) False negative rate
5. Explain the concept of ROC curve
6. What is bootstrapping? Explain with an algorithm.
7. What is cross validation? Explain k-fold cross validation.
8. Explain the different types of ensemble methods.
9. Explain hyperparameter tuning. Compare different methods for hyperparameter tuning.
10. A hospital builds a model to detect cancer from screening tests. Out of 100 actual cancer cases, the model detects 95. Out of 900 non-cancer cases, the model wrongly predicts 50 as cancer. Compute Accuracy, Precision, Recall (Sensitivity) and Specificity.
11. Calculate TPR, TNR, FPR, FNR ,Accuracy, Precision, Recall, F1 score , Sensitivity and Specificity for below:

Index	1	2	3	4	5	6	7	8	9	10
Actual	Dog	Dog	Dog	Not Dog	Dog	Not Dog	Dog	Dog	Not Dog	Not Dog
Predicted	Dog	Not Dog	Dog	Not Dog	Dog	Dog	Dog	Dog	Not Dog	Not Dog

12.