QUESTION BANK

Q1. What is pattern recognition?

Q2. Explain the difference between statistical and structural approaches?

Q3. Explain Bayes theorm.

Q4.What is random variable.

Q5.What is parametric estimation method.

Q6.What is difference between maximum likely hood and bayes method.

Q7.Explain feature extraction.

Q8. Write down properties of expectation-maximization algorithm.

Q9.What is clustering.

Q10. Give criterion function of clustering.

Q11. Give various important clustering algorithms.

Q12.Write short note on divise and agglomerative clustering.

Q13.Explain Mean and Covariance.

Q14. Describe Normal Density Function and Utility Theory

Q15. What do you mean by fussy decisions making? Also discuss the fuzzy classification using suitable example.

Q16. What do you understand by supervised learning and unsupervised learning? Explain.

Discuss any unsupervised learning algorithm with some examples.

Q17. Briefly explain segmentation and grouping.

Q18. What is Feature Extraction?

Q19.What is Pattern Classification?

Q20. Explain Gaussian Mixture Models.

Q21.If for any two elements A<B given that P(A)=1/3,P(B)=1/5 and P(AUB)=11/30,then find:P(A/B).

Q22. Explain chi-square test.

Q 23. Explain evaluation of classifier.

Q24. Give probability distribution of a random variable.

Q25.Explain why the maximum likelihood estimation is not working with uniformly distributed training sets.

Q26.Show that in the likelihood the sample mean is equal to the mean of samples.

Q27. Write short on Principal Component Analysis.

Q28. Write short on EM theory?

Q29.What is NN rule?

Q30.What is k-NN rule?

Q31.What is Bayesian Probability of error?

Q32.What is fuzzy classes and fuzzy k-NN algorithm ?

Q33 . Explain nearest neighbour algorith with example.

Q34. How to detect boundaries of fuzzy classes.

Q35.Write short note on non-parametric methods.

Q36.Determine the methods for determining the number of clusters.

Q37. Explain in short non-hierarchical algorithm.

Q38. Explain in short hierarchical algorithm.

Q39.Write short note on soft partitioning.

Q40. Explain in short on iterative square-error partitional clustering.

Q41.What are Major Paradigms of Machine Learning?

Q42.A number is chosen at random from the integers from 1 to 50. What is the probability that the number chosen is (i) a multiple of 7 (ii) a doublet?

Q43.Two cards are drawn from a pack of 52. Find the probability that one may be queen and other a king.

Q44.Two cards are drawn from a full pack of 52 cards. What is the chance that

(i) both are acts of different colors

(ii) (ii) open is red and other is black.

Q45. Explain Normal Distribution with its characteristics.

Q46.Explain Fishers Linear Discriminate.

Q47.Derive Binomial Distribution and give its characteristics.

Q48.Derive Poisson Distribution and give its characteristics.

Q49. Explain Bayesian Decision theory.

Q50. Give discriminating functions for normal density.

Q51.Briefly describe HMM.

Q52.Briefly describe Maximum-likelihood estimation.

Q53. Explain in brief Parzen Window.

Q54. Derive Density Estimation.

Q55. Write a brief note on cluster validity.

Q56. Explain k-means algorithm.