B.sc 3rd Semester Question Bank

Paper Title: Statistical Inference

1.What are the properties of good estimator

2.what is meant by Estimator, Estimation, Estimate

3.Explain and its applications

4.Explain Mean Squared Error and prove that MSE = Variance + $(Bias)^2$

5.Define Terms a)Population b)sample c)parameter d)statistic

6.What is meant by exponential family of distributions

7.which distributions satisfies exponential family of distributions

8.which distributions does not satisfy exponential family of distributions

9.Explain point and interval estimation

10.Define unbiasedness along with examples

11.Is sample mean unbiased estimator of population mean

12.Is sample variance unbiased estimator of population variance

13.The expected value of an unbiased estimator is equal to

14.Define Consistency along with examples

15.Which convergence property are we using in consistency

16.Standard error of an estimator is equal to

17.An estimator is said to be _____if its expected value equals to the true parameter

18.The property of an estimator where it approaches the true parameter as the sample size increases is called

19.What are the sufficient conditions for consistency

20.Is sample variance consistent estimator of population variance

21.What is meant by one parameter exponential family of distributions

22.What is the abbreviation of MLE

23.What are the types of Estimations we studied till now

24.What is meant by Sufficiency

25.The MLE is obtained by

26.Which of the distributions are not part of the one parameter exponential family

27.A statistic is said to be sufficient if it contains all the information about

28.The _____of distributions includes many commonly used distributions such as the normal, binomial and poisson distributions

29.The_____is the joint probability of the observed data, considered as a function of the parameter

30.A distribution belongs to the one parameter exponential family if it can be written in the form

31.What does Neyman's Factorization Theorem help to determine.

32.The normal distribution with_____is a member of the one-parameter exponential family.

33._____Method to identify sufficient statistic

34.The_____method selects parameter values that maximize the likelihood function

35.Give real life examples of sufficiency

36.Simple problems on Sufficiency

37.Simple problems on MLE

38.Simple problems on Method of Moments

39.Simple problems on Neymann Factorization Theorem

40.Examples of One parameter exponential family of distribution.