SUBJECT NO-MA41108, SUBJECT NAME- Statistical Inference

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Parametric point estimation, unbiasedness, consistency, efficiency, invariance, method of moments and maximum likelihood, lower bounds for the variance of an estimator, Frechet-Rao-Cramer, Bhattacharya, Chapman-Robbins-Kiefer inequalities. Sufficiency, minimal sufficiency, Factorization Theorem, Rao-Blackwell Theorem, completeness, Lehmann-Scheffe Theorem, Basu s Theorem.Tests of hypotheses, simple and composite hypotheses, types of error, Neyman-Pearson Lemma, families with monotone likelihood ratio, UMP, UMP unbiased and UMP invariant tests. Likelihood ratio tests-applications to one sample and two sample problems, Chi-square tests. Sequential probability ratio test.Interval estimation- methods for finding confidence intervals, shortest length confidence intervals.