SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Sc.(Maths) END SEMESTER EXAMINATIONS APRIL-2023
SEMESTER - IV

20UMAAT4004 - Mathematical Statistics - II

Total Duration : 2 Hrs 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Explain the chi square test for goodness of fit.
2. State and prove Neyman-Pearson lemma.
3. Explain the properties of Maximum Likelihood Estimators.
4. Explain the types of errors.
5. Write Test of independence of attributes based on contingency table in chi square test.
6. Explain difference between t and F distributions.
7. Explain Rao-Blackwell theorem.
8. Explain confidence interval for the ratio of variances of two samples when their population means are unknown.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Derive mean and variance about F distribution.
10. State and prove Cramer rao inequality.
11. Explain confidence interval for the mean and difference of two means when population variance is unknown.
12. What is hypothesis? Explain its types.
13. Explain the goodness of fit test and Independence of attributes test.

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