QP Code: D134210	**Total Pages: 2**	**Name:**
		Register No.

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(CUFYUGP)

STA3MN201- STATISTICAL INFERENCE USING R

2024 Admission onwards

Maximum Time :2 Hours	**Maximum Marks :70**

Section A

All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)

1	Define Sufficiency of an estimator
2	Define Assignment operator and comparison operator in R
3	Write down the confidence interval for mean of a normal population when σ is known
4	Explain Large Sample test.
5	Differentiate estimator and estimate with example.
6	Define critical region in testing of a hypothesis.
7	Define Statistical hypothesis. Distinguish between Null hypothesis and alternative hypothesis.
8	Define interval estimation.
9	Define Chi square test for Goodness of fit
10	Briefly explain the procedure for installing R software.

Section B

All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)

11	Estimate the moment estimator of the parameter p of gamma distribution in Gamma(a,p).
12	For a normal population, show that sample standard deviation is a biased estimator of population standard deviation. Obtain an unbiased estimator for population variance.
13	Obtain sufficient estimator for p, using the samples taken from B(n,p)
14	Discuss the Chi square test for independence of attributes.
15	Describe descriptive measures in R
16	Define methods of Estimation. Explain the methods of maximum likelihood estimation
17	List out the application of Chi square distribution.
18	Describe the procedure for testing mean of a population when σ is known.

Section C

Answer any ONE. Each Question carries 10 marks (1x10=10 Marks)

19	Explain Statistical inference. Also describe theory of estimation. Explain desirable properties of a good estimator.
20	Write down the R code for compute mean, median, mode for the following frequency distribution

Height in cm	No. of adult men
145-150	4
150-155	6
155-160	28
160-165	58
165-170	64
170-175	30
175-180	5
180-185	5