

QP Code: D134566		Total Pages: 2	Name:
			Register No.
<b>THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025</b>			
(CUFYUGP)			
<b>STA3MN201- STATISTICAL INFERENCE USING R</b>			
2024 Admission onwards			
Maximum Time :2 Hours			Maximum Marks :70
<b>Section A</b>			
<b>All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)</b>			
1	List the graphical functions used in R.		
2	Write down the steps for R installation.		
3	Write down the sufficient condition for consistency.		
4	Define Acceptable object name.		
5	Define Statistical Hypothesis. Distinguish between Simple hypothesis and Composite hypothesis.		
6	What are the statistics used in testing of the mean of a population using a large sample when population variance is (i) known (ii) unknown		
7	Define methods of maximum likelihood estimation.		
8	Define errors in testing of hypothesis. Also explain the level of significance.		
9	Define Chi square test for independence of attributes.		

10	Define point estimation. What are the desirable properties of a good estimator?
<b>Section B</b>	
<b>All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)</b>	
11	Obtain moment estimator for $\mu$ and $\sigma$ of a normal population with mean $\mu$ and standard deviation $\sigma$ based on a sample of size n.
12	Discuss the Chi square test for goodness of fit.
13	For the following dataset, write R commands for computing Standard deviation and coefficient of variation :1.2,1.4,1.3,1.6,1.0,1.5,1.7,1.1,1.2,1.3
14	Let $X_1, X_2, \dots, X_n$ be a random sample from $U[0, \theta]$ . Find sufficient estimator for $\theta$ .
15	Show that $\underline{X}(1-\underline{X})$ is a consistent estimator of $p(p-1)$ when a random sample of size n taken from Bernoulli Distribution.
16	Define Unbiased estimator and consistent estimator. Give an example of an estimator which is consistent but not an unbiased estimator
17	Derive the confidence limit for proportion.
18	List out the applications of Chi square distributions
<b>Section C</b>	
<b>Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)</b>	
19	Describe the different methods of data input in R. Also Explain Descriptive measures in R.
20	Explain Statistical inference. Also describe theory of estimation. Explain desirable properties of a good estimator.