

4<sup>th</sup> Semester Exam. 2021

STATISTICS

COURSE - 401

(Sample Survey)

Marks - 20

Time - 1 hr

Answer any two questions from the following

1. What do you mean by sampling? What are its objectives? What are the basic principles of sampling? Describe how a sample is selected in SRS procedure.  $1+2+3+4=10$
2. What do you mean by stratification? What are the advantages of stratified random sampling? How the samples are allocated in this procedure? Describe.  $1+3+6=10$
3. Prove that in a SRSWOR method sample variance is an unbiased estimate of population variance.  $10$

OR

Show that in SRSWOR,

$$\text{var}(\bar{y}_{(n)}) = \left(\frac{1}{n} - \frac{1}{N}\right) S^2$$