THREE YEAR B.A./B.Sc DEGREE EXAMINATION
STATISTICS(WM)
(W.E.F 2020-21 ADMITTED BATCH)
SEMESTER –IV
PAPER 4: SAMPLING TECHNIQUES AND DESIGN OF EXPERIMENTS

Time: 3 Hours Max. Marks : 75

SECTION – A

Answer any FIVE Questions :- 5 X 5 = 25 M

1. Explain briefly Lottery method to select a simple random sample
2. Show that the Sample mean is UBE of the Population mean in SRSWOR.
3. Define Proportional and Optimum allocations in Stratified Random Sampling
4. write the Merits and Demerits of Systamatic sampling.
5. Explain one way ANOVA with equal number of observations
6. Define CRD, Mention advantages, disadvantages of CRD
7. Define RBD,What is the layout of RBD.
8. Estimate the Missing Plot in LSD.
9. What is a Factorial Experiment.
10. What are the advantages of Factorial experiments

SECTION - B

Answer any FIVE Questions. 5 X 10 = 50 M

11. In SRSWOR show that $V(\bar{y}) = \frac{N-n}{Nn} S^2$
12. Show that in SRSWR the sample mean square is an UBE of the Population Variance
13. With usual notations show that $Vopt(yst) \leq \bar{V}prop(yst) \leq V\bar{ran}(y)$
14. If the population consists of a linear trend, show that $V(\bar{y})_{st} \leq V(\bar{y})_{sys} \leq V(\bar{y})_R$
15. Explain the Principles of Design of Experiments
16. Explain Two Way ANOVA
17. Describe LSD and discuss its merits and demerits.
18. Explain Missing Plot Technique in RBD. Also write its statistical analysis.
19. Explain 2^2 Factorial experiment in RBD
20. Explain Yates procedure to find Total Effects.