8. In simple random sampling without replacement (N, n), prove that the bias of the ratio estimator $\hat{R}$ is approximately equal to: $B(\hat{R}) \sim \frac{1-f}{n\overline{X}^2}(RS_x^2) - \rho S_y S_x = Rcv(\overline{X})[cv(\overline{X}) - \rho cv(\overline{y})]$.
9. Explain the mathematical model with the hypothesis to be tested in a two way ANOVA and prepare ANOVA table.
10. Carry out the statistical analysis of p x p Latin Square Design (LSD) with one observation per cell.
11. The following is a partially completed ANOVA table.

Source of variation	Sum of squares	Degree of Freedom	Mean Square	F
Treatments	900	5	-----	---
Blocks	220	3	-----	---
Error	228	-----	-----	
Total	3148	23		

Complete the ANOVA table and answer the followings:
What design was adopted? How many treatments were compared? Give the total number of observations? Draw the conclusion whether the treatments have different effect at 5% level of significance. Are also the blocks homogeneous?

12. Explain the terms-experimental units, treatments and blocking in design of experiment.
13. What do you mean by Randomized Complete Block Design (RCBD)? Prepare an Analysis of Variance (ANOVA) table for RCBD.