**H/Design/Sem6/Problem Set 2 Date:**

**Missing Plot Technique**

1. The following data were obtained from an experiment using the treatment Blitox, Dithane, Brestan and Control. After sowing rhizomes of the mat-grass in four plots in each of the three villages, the above four treatments were applied at random to the plots in a village after 30 days of sowing. Unfortunately the yield of the third treatment in the third village was lost. The available yields in gm of 1 rg ft cutting per plot after 120 days are given below.
2. Estimate the missing observation based on the available data.
3. Analyse the data to find out if there are any significant treatment effects.
4. Test if the treatments Blitox and Brestan differ significantly on the yield. Also find an estimate of the variance of the estimate of the treatment difference.
5. Obtain an estimate of the average variance of the elementary contrasts.

|  |  |  |  |
| --- | --- | --- | --- |
| Treatment | village | | |
|  | 1 | 2 | 3 |
| Blitox | 678 | 510 | 531 |
| Dithane | 703 | 689 | 611 |
| Brestan | 736 | 574 | \* |
| Control | 556 | 510 | 500 |

1. The following data were obtained from a cow-feeding experiment with 5 feeds using a Latin Square Design.
2. Estimate the missing observation based on the available data.
3. Analyse the data to find out if there are any significant treatment effects.
4. If the treatments are found to be significant, obtain which pairs cause the differential effects.
5. Obtain an estimate of the average variance of the elementary contrasts.

|  |  |  |  |  |
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| A (30) | B (35) | C (47) | D(50) | E (38) |
| B (36) | C (42) | D (48) | E (\*) | A (32) |
| C (41) | D (52) | E (40) | A (34) | B (38) |
| D (54) | E (40) | A (35) | B (34) | C (45) |
| E (40) | A (34) | B (38) | C (42) | D (50) |