**Design of Experiments**

Practical midterm

Batch I

1. Four batches of Paneer were prepared by taking three levels of fat content of milk. Moisture content of the samples were recorded. Test for the significant difference between batches of Paneer and levels of fat content of milk using two way ANOVA and Do the post hoc analysis.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Batch** | | | | |
| **Fat level** |  | **1** | **2** | **3** | **4** |
| **1** | 66.8 | 68.12 | 67 | 64 |
| **2** | 77.9 | 78.7 | 77.1 | 76.2 |
| **3** | 71.7 | 71.8 | 71.8 | 71 |

2. The R &D manager of a manufacturing firm is in a state of dilemma whether the sales revenue (Crores of rupees) is affected by sales region. Because there might be variability from one period to another period, he decides to use the RCBD by taking the period as block. The corresponding data are presented below.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Period** |  | **Sales region** | | | | | |
|  | **A** | **B** | **C** | **D** | **E** | **F** |
| **1** | 18 | 9 | 15 | 22 | 9 | 10 |
| **2** | 25 | 7 | 14 | 18 | 28 | 13 |
| **3** | 20 | 8 | 12 | 9 | 15 | 17 |
| **4** | 11 | 13 | 30 | 12 | 20 | 23 |
| **5** | 18 | 11 | 25 | 15 | 16 | 8 |
| **6** | 24 | 30 | 17 | 16 | 20 | 30 |