# Nested Designs using R

A rocket propellant manufacturer is studying the burning rate of propellant from three production processes. Four batches of propellant are randomly selected from the output of each process, and three determinations of burning rate are made on each batch. The results follow. State the model equation and hypotheses to be tested. Perform the analysis and draw conclusions, using alpha=0.05 where applicable.

|  | **Process 1** | | | | **Process 2** | | | | **Process 3** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Batch** | **1** | **2** | **3** | **4** | **1** | **2** | **3** | **4** | **1** | **2** | **3** | **4** |
| **Obs1** | 25 | 19 | 15 | 15 | 19 | 23 | 18 | 35 | 14 | 35 | 38 | 25 |
| **Obs2** | 30 | 28 | 17 | 16 | 17 | 24 | 21 | 27 | 15 | 21 | 54 | 29 |
| **Obs3** | 26 | 20 | 14 | 13 | 14 | 21 | 17 | 25 | 20 | 24 | 50 | 33 |