Balanced and partially balanced incomplete block designs

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Abstract

In the literature, it is available that by developing the initial block with reduced mod v, where v is the number of treatments, either balanced incomplete block design or partially balanced incomplete block design or some other incomplete block design can easily be constructed. The initial block is obtained by various methods. In this investigation, we have developed a general structure from which one can construct either BIB design or PBIB design or some another incomplete block design depending upon the size of n, while the block size is kept fixed. The size n is nothing but considered as number of treatment v. Further, we have shown that for different value of n, except n = 4, a series of partially balanced incomplete block design with two associate classes are constructed with parameters v = n, b = n, r = 3, k = 3 along with other secondary parameters depending upon n.

Kew words and Phrases: Balanced designs, group - divisible designs, two -associate classes.