

Package ‘GETdesigns’

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Type Package

Title Generalized Extended Triangular Designs ('GETdesigns')

Version 1.1.0

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Description Since their introduction by Bose and Nair (1939) <<https://www.jstor.org/stable/40383923>>, partially balanced incomplete block (PBIB) designs remain an important class of incomplete block designs. The concept of association scheme was used by Bose and Shimamoto (1952) <[doi:10.1080/01621459.1952.10501161](https://doi.org/10.1080/01621459.1952.10501161)> for the classification of these designs. The constraint of resources always motivates the experimenter to advance towards PBIB designs, more specifically to higher associate class PBIB designs from balanced incomplete block designs. It is interesting to note that many times higher associate PBIB designs perform better than their counterpart lower associate PBIB designs for the same set of parameters v, b, r, k and λ_i ($i=1,2,\dots,m$). This package contains functions named GETD() for generating m -associate ($m \geq 2$) class PBIB designs along with parameters (v, b, r, k and $\lambda_i, i = 1, 2, \dots, m$) based on Generalized Triangular (GT) Association Scheme. It also calculates the Information matrix, Average variance factor and canonical efficiency factor of the generated design. These designs, besides having good efficiency, require smaller number of replications and smallest possible concurrence of treatment pairs.

Suggests MASS

License GPL (≥ 2)

Encoding UTF-8

Repository CRAN

RoxygenNote 7.2.0

NeedsCompilation no

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`GETD`*Generalized Extended Triangular Designs*

Description

This package contains functions named `GETD()` for generating a m -associate ($m \geq 2$) class PBIB designs and its parameters based on Generalized Triangular (GT) Association Scheme. It also calculates the Information matrix, Average variance factor and canonical efficiency factor of the generated design.

Usage

```
GETD(n, m)
```

Arguments

<code>n</code>	It is a natural number such that $n \geq 2m$; $m \geq 2$
<code>m</code>	It is a natural number such that $m \geq 2$

Value

This function for generates an m -associate ($m \geq 2$) class PBIB design and its parameters, based on Generalized Triangular (GT) Association Scheme, along with its Information matrix, Average variance factor and canonical efficiency factor.

References

- 1) R.C. Bose, K.R. Nair (1939)< <https://www.jstor.org/stable/40383923>>" Partially balanced incomplete block designs ".
- 2) R.C. Bose, T. Shimamoto (1952)<[doi:10.1080/01621459.1952.10501161](https://doi.org/10.1080/01621459.1952.10501161)> "Classification and analysis of partially balanced incomplete block designs with two associate classes".

Examples

```
library(GETdesigns)  
GETD(6,2)
```

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