Package 'GETdesigns'

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Type Package

Title Generalized Extended Triangular Designs ('GETdesigns')

Version 1.2.0

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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> 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 lambda_i (i=1,2...m). This package contains functions named GETD() for generating m-associate (m>=2) class PBIB designs along with parameters (v, b, r, k and lambda_i, i = 1, 2,. . . ,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 7.2.3

NeedsCompilation no

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Contents

GETD *Generalized Extended Triangular Designs*

Description

This package contains a function named GETD() for generating m-associate (m>=2) class PBIB designs along with parameters (v, b, r, k and lambda_i, i = 1, 2,. . . ,m) and the underlying Generalized Extended Triangular (GET) Association Scheme.

Usage

```
GETD(n, m, trt = 1)
```

Arguments

n	It is a natural number such that n >= 2m ; m >= 2
m	It is a natural number such that m >= 2
trt	Provide any treatment number to know its all associates. By default it is 1.

Value

This package generates an m-associate (m >= 2) class PBIB designs under GET Association Scheme. It also calculates the Information matrix, Average variance factor, canonical efficiency factor and different treatment associates of the generated designs.

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> "Classification and analysis of partially balanced incomplete block designs with two associate classes".

Examples

```
library(GETdesigns)
GETD(6,2,1)
```

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