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NPTEL

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Courses » Design and Analysis of Experiments

Announcements Course Ask a Question Progress Mentor

Unit 2 - Week 1

Course outline

How to access the portal

Week 1

- Lecture 1: Design and Analysis of Experiments: Introduction
- Lecture 2: Principles of Experimental Design
- Lecture 3: Types of Experimental Design
- Lecture 4: Types of Experimental Design (Contd.)
- Lecture 5: Data Summary and Presentation
- Feedback for Week 1
- Quiz : Week_1_Assignment_1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week_1_Assignment_1

The due date for submitting this assignment has passed. **Due on 2018-02-05, 23:59 IST.**

Submitted assignment

1) The basic principles of experimental design are 2 points

- (i) randomization, repetition, blocking
- (ii) repetition, randomization, factorization
- (iii) replication, blocking, randomization
- (iv) Optimization, blocking, factorization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(iii) replication, blocking, randomization

2) The principle used in dealing with controllable nuisance factor is 2 points

- (i) blocking
- (ii) analysis of covariance
- (iii) analysis of variance
- (iv) process robustness

No, the answer is incorrect.

Score: 0

Accepted Answers:

(i) blocking

3) The analysis procedure used for experimental data with uncontrollable and measurable nuisance factor is 2 points

- (i) blocking
- (ii) analysis of covariance
- (iii) analysis of variance
- (iv) none of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

(ii) analysis of covariance

4) A factor that varies naturally and uncontrollably in the process but can be controlled for purposes of an experiment, is often called as 2 points

- (i) confounding factor
- (ii) noise factor
- (iii) design factor

Week 10

Week 11

Week 12

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- (iv) None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

(ii) noise factor

5) The study which helps one to understand the conditions under which response variables of interest change seriously is **2 points**

- (i) optimization
 (ii) randomization
 (iii) replication
 (iv) robustness

No, the answer is incorrect.

Score: 0

Accepted Answers:

(iv) robustness

Questions 6-9 are based on the following case:

Consider the following mathematical model

$$y = f(x, z)$$

$$\Delta y = \frac{\partial f}{\partial x} \Delta x + \frac{\partial f}{\partial z} \Delta z$$

6) Determining the most influential variables on the response y is called **2 points**

- (i) Process optimization
 (ii) Process control
 (iii) Robust design
 (iv) Process Characterization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(iv) Process Characterization

7) Determining the x variability that effects on y variability is called **2 points**

- (i) Process optimization
 (ii) Process control
 (iii) Robust design
 (iv) Process Characterization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(ii) Process control

8) Determining the optimized x variability so that the variability of y is small is called **2 points**

- (i) Process optimization
 (ii) Process control
 (iii) Robust design
 (iv) Process Characterization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(i) Process optimization

9) Determining the x variability so that the effects of the uncontrollable variables are minimized is called **2 points**

- (i) Process optimization
- (ii) Process control
- (iii) Robust design
- (iv) Process Characterization

No, the answer is incorrect.

Score: 0

Accepted Answers:

(iii) Robust design

10) An independent repeat run of each factor combinations is called **2 points**

- (i) Replication
- (ii) Randomization
- (iii) Blocking
- (iv) Repeated measurement

No, the answer is incorrect.

Score: 0

Accepted Answers:

(i) Replication

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