

Unit 13 - Week 11

Course outline

How does an NPTEL online course work?

Practice Assignment

Week 1

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Week 3

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Week 11

Lecture 87: Design of Experiment I

Lecture 88: Design of Experiment II

Lecture 89: Design of Experiment III

Lecture 90: Design of Experiment IV

Lecture 91: Summary of the course

Weekly Feedback

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Quiz : Assignment 11

Assignment 11 solution

Week 12

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Assignment 11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-15, 23:59 IST.

1) According to Sir Ronald Fisher what are the basic principle of "Design of Experiment" 1 point

- Randomization
- Replication
- Immediacy and Sequentially
- Local Control
- Blocking

No, the answer is incorrect.
Score: 0

Accepted Answers:

Randomization

Replication

Blocking

2) Statement 1: Replication is the doing the same experiment with same experimental condition all over again to estimate the experimental error or to estimate the mean response precisely. 1 point

Statement 2: Randomization is a process of assigning the experiment randomly to experimental unit to remove the biasedness of test condition.

Statement 3: Blocking is the process of assigning the experiment to reduce the effect of nuisance factor and it is uncontrollable error.

Which of the following statement is correct?

- 1&2
- 2&3
- 1&3
- 1,2&3

No, the answer is incorrect.
Score: 0

Accepted Answers:

1,2&3

3) In the example of "optimize Nano Titania production using microwave plasma synthesis" in the lecture of Design of experiment the response interest is two (% efficiency and % anatase) and the factors are same as 7 but the number of two factor interaction is 6 and three factor interaction is 3 then what should be the orthogonal design matrix? 1 point

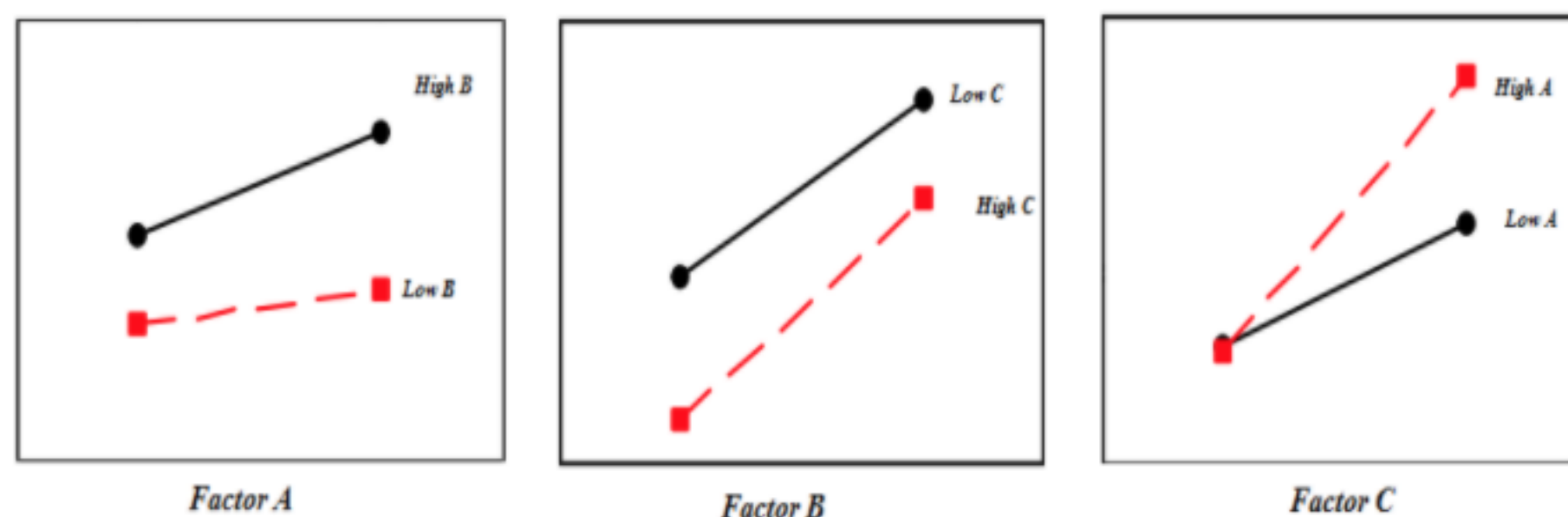
- 16
- 18
- 17
- 32

No, the answer is incorrect.
Score: 0

Accepted Answers:

32

4) A factorial experiment is done to discover the interaction between the factors. Let's in a experiment three factor A, B and C with two level each low and high. The below figure are representative of interaction plot. What should be conclusion. 1 point



- Factor A & B has interaction
- Factor A & B has no interaction
- Factor A & C has interaction
- Factor B & C has interaction

No, the answer is incorrect.
Score: 0

Accepted Answers:

Factor A & C has interaction

5) Which is the following statement is not correct in reference to one factor at a time experimentation strategy? 1 point

- Vary only one factor or variable at a time while keeping others fixed.
- It requires more number of experiment for same precision in response.
- It does not allow the estimation of interaction between factors.
- Based on output of preceding experiment determine the factor for next experiment.

No, the answer is incorrect.
Score: 0

Accepted Answers:

Based on output of preceding experiment determine the factor for next experiment.