

Answer Submitted.

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[NPTEL \(https://swayam.gov.in/explorer?ncCode=NPTEL\)](https://swayam.gov.in/explorer?ncCode=NPTEL) » Data Science for Engineers (course)
Course
outlineHow does an
NPTEL online
course work?

Setup Guide

Pre Course
Material

Week 0

Week 1

Week 2

Week 3

Week 4

- ☐ Optimization for Data Science (unit? unit=56&lesson=57)
- ☐ Unconstrained Multivariate Optimization (unit? unit=56&lesson=58)
- ☐ Unconstrained Multivariate

Week 4: Assignment 4 (Non Graded)

Assignment not submitted

Note : This assignment is only for practice purpose and it will not be counted towards the Final score

1) Which of the following plots is useful for visualizing the optimization problem?

1 point

- ☐ Scatter plot
- ☒ Box plot
- ☐ Contour plot
- ☐ Bar plot

No, the answer is incorrect.
Score: 0

Accepted Answers:
Contour plot

2) If $f(x) = 5x^4 - 30x^3 + 40x^2 - 60$, then the first order necessary condition for either maxima or minima of $f(x)$ is **1 point**

- ☐ $20x^3 - 90x^2 - 80 = 0$
- ☐ $20x^3 - 80x^2 - 90x = 0$
- ☒ $20x^2 - 90x^2 + 80 = 0$
- ☐ $20x^3 - 90x^2 + 80x = 0$

Optimization (Continued)
(unit?
unit=56&lesson=59)

☐ Gradient (Steepest)
Descent (OR)
Learning Rule
(unit?
unit=56&lesson=60)

☐ FAQ (unit?
unit=56&lesson=61)

☐ Week 4
Feedback
Form: Data
Science for
Engineers
(unit?
unit=56&lesson=62)

☐ Practice:
Week 4:
Assignment 4
(Non Graded)
(assessment?
name=123)

☒ Quiz: Week 4:
Assignment 4
(assessment?
name=132)

☒ Week 4:
Solutions
(unit?
unit=56&lesson=140)

Week 5

Week 6

Week 7

Week 8

Text Transcripts

Download
Videos

Books

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $20x^3 - 90x^2 + 80x = 0$

3) For a function $f(x) = 5x^4 - 30x^3 + 40x^2 - 60$, which of the following value is a **1 point** stationary point of $f(x)$

- ☐ 4
☐ 0.2
☒ 3.28
☐ 0

Partially Correct.
Score: 0.5
Accepted Answers:
3.28
0

4) The maximization of a function $f(\bar{x})$ is equal to the _____ of the function $-f(\bar{x})$ **1 point**

- ☐ First derivative
☐ Second derivative
☒ Minimization
☐ Maximization

Yes, the answer is correct.
Score: 1

Accepted Answers:
Minimization

5) For a function $f(x) = 3x^4 - 4x^3 - 12x^2 + 45$, which of the following are **1 point** stationary points and minimisers of $f(x)$

- ☐ 0,-2.5
☒ 2, -1
☐ 0.25,2
☐ 2, -2.5

Yes, the answer is correct.
Score: 1

Accepted Answers:
2, -1

Check Answers and Submit

Your score is: 2.5/5

