

X



reviewer3@nptel.iitm.ac.in ▼

Courses » Nonlinear Programming

Announcements **Course** Ask a Question Progress Mentor FAQ

# Unit 4 - Week-3

## Course outline

How to access the portal

Week-1

Week-2

Week-3

- Lesson-11  
Geometric Programming-I
- Lesson-12  
Geometric Programming-II
- Lesson-13  
Geometric Programming-III
- Lesson-14  
Dynamic Programming-I
- Lesson-15  
Dynamic Programming-II
- Quiz :  
Assignment 3
- Solution of  
Assignment 3

Week-4

WEEKLY FEEDBACK

## Assignment 3

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment. **Due on 2018-09-19, 23:59 IST.**

1) *The optimal solution of the problem* **1 point**

$$\text{Min } f = 2x_1^2x_2^3 + 2x_1^{-3}x_2^{-2},$$

$$s/t \ x_1x_2^{-1} \leq \frac{1}{4},$$

$$x_1, x_2 > 0$$

is

$x_1 = 1, x_2 = 1$

$x_1 = \frac{1}{2}, x_2 = 2$

$x_1 = \frac{1}{2}, x_2 = \frac{1}{2}$

$x_1 = 2, x_2 = 2$

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

$$x_1 = \frac{1}{2}, x_2 = 2$$

Questions (2) to (5) are based on the paragraph – I

### Paragraph-I

Consider the problem :

$$\text{min } f(x) = x_1^{-1}x_2^{-1} + 10x_1x_2x_3^{-1} + 20x_2x_3 + x_1x_3,$$

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



A project of



**NPTEL**

National Programme on  
Technology Enhanced Learning

In association with



Funded by

2

No, the answer is incorrect.

Score: 0

Accepted Answers:

0

3) If  $f(x) \geq \left(\frac{1}{\delta_1}\right)^{\delta_1} \left(\frac{10}{\delta_2}\right)^{\delta_2} \left(\frac{20}{\delta_3}\right)^{\delta_3} \left(\frac{1}{\delta_4}\right)^{\delta_4}$ ,  $\delta_i > 0, \forall i$ ,

1 point

Then  $-\delta_1 + \delta_2 + \delta_3$  equals

 -2 -1 0 1

No, the answer is incorrect.

Score: 0

Accepted Answers:

0

4) The value of  $\delta_3$  equals

1 point

$\frac{1}{7}$

$\frac{2}{7}$

$\frac{3}{7}$

$\frac{1}{5}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\frac{1}{7}$

5) The optimum value of  $f$  is

1 point

$\approx 1$

$\approx 5.5$

$\approx 7.5$

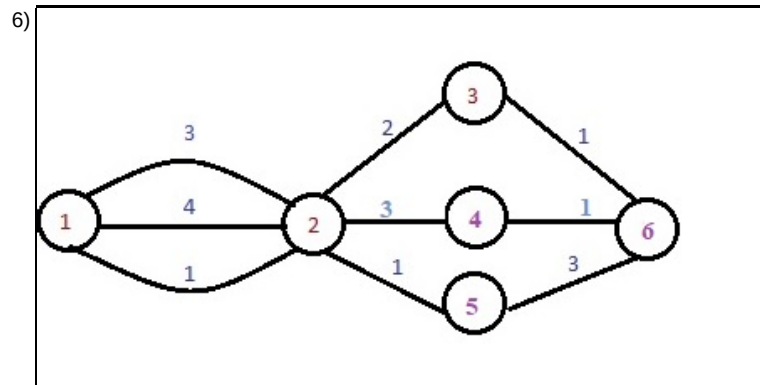
$\approx 10.6$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\approx 10.6$



0 points

The shortest distance from node (1) to (5) is

- 3
- 4
- 5
- 6

No, the answer is incorrect.

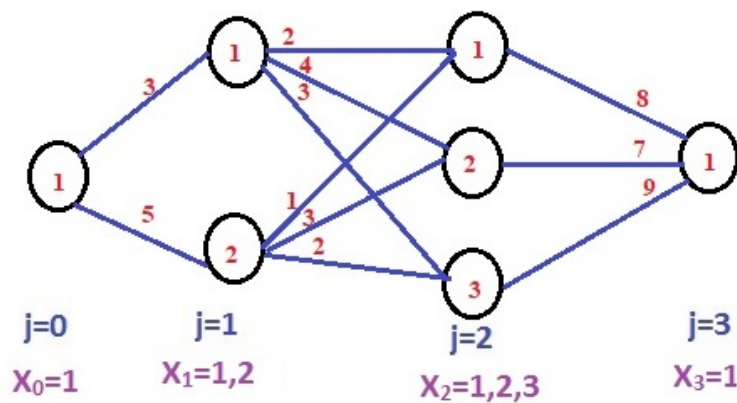
Score: 0

Accepted Answers:

5

Questions (7) to (10) are based on the paragraph – II

**Paragraph-II**



7) The value of  $f_2(x_2 = 3)$  is

1 point

- 0
- 7
- 8
- 9

No, the answer is incorrect.

Score: 0

Accepted Answers:

9

8)  $f_1(x_1 = 1)$  equals

1 point

- 9
- 10
- 11
- 12

No, the answer is incorrect.

Score: 0

Accepted Answers:

10

9) The value of  $f_0(x_0 = 1)$  equals

1 point

- 11
- 12
- 13
- 14

No, the answer is incorrect.

Score: 0

Accepted Answers:

13

10) The optimal path is

1 point

- 
- $x_0 = 1 \rightarrow x_1 = 1 \rightarrow x_2 = 1 \rightarrow x_3 = 1.$
- 
- $x_0 = 1 \rightarrow x_1 = 1 \rightarrow x_2 = 2 \rightarrow x_3 = 1.$
- 
- $x_0 = 1 \rightarrow x_1 = 2 \rightarrow x_2 = 1 \rightarrow x_3 = 1.$
- 
- $x_0 = 1 \rightarrow x_1 = 2 \rightarrow x_2 = 3 \rightarrow x_3 = 1.$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$x_0 = 1 \rightarrow x_1 = 1 \rightarrow x_2 = 1 \rightarrow x_3 = 1.$

[Previous Page](#)[End](#)

