Week 2: Assignment 2

The due date for submitting this assignment has passed.

Due on 2021-06-15, 23:59 IST.

As per our records you have not submitted this assignment.

If the labour (l) and capital (k) are two inputs used to produce output (y), y = min(4l, 3k). Is this a production function?
- Yes
- No, the answer is incorrect.

Score: Accepted Answers: No

2 points

2) Suppose the production function is \( y = l^2 + k \). Does it exhibit constant returns to scale?
- Yes
- No, the answer is incorrect.

Score: Accepted Answers: No

2 points

3) Suppose labour (l) and capital (k) are two inputs used to produce output (y). Suppose the production function is \( y = l^2 + k \). What kind of returns to scale it exhibits?
- Constant returns to scale
- Decreasing returns to scale
- Increasing returns to scale

Score: Accepted Answers: Increasing returns to scale

2 points

4) Suppose salary (w) is paid to a worker using labour (l) and capital (k). The production function is \( y = l^2 + k \). If the wage rate is 600 and the price of the capital is 100, what is the maximum output of the firm?
- \( y = 600 \)
- \( y = 100 \)
- \( y = 200 \)
- \( y = 50 \)

Score: Accepted Answers: \( y = 50 \)

2 points

5) The cost function is \( C(l, k) = 20l + 50k \). What is the marginal cost (MC) and average cost (AC) function?

Score: Accepted Answers: MC(l, k) = 20, AC(l, k) = 10 + \frac{50}{l}

2 points

6) Suppose the production function is \( y = \min(4l, 3k) \). The wage rate is Rs 3 and the price of capital is Rs 5. Compute the cost function.
- \( c(l, k) = 12l + 15k \)
- \( c(l, k) = 6l + 9k \)
- \( c(l, k) = 9l + 12k \)

Score: Accepted Answers: \( c(l, k) = 6l + 9k \)

2 points

7) Suppose the production function is \( y = \min(4l + k, 2l + 3k) \). The wage rate is Rs 3 and the price of capital is Rs 5. What is the marginal cost function (MC)?

Score: Accepted Answers: MC(l, k) = \begin{cases} 4 & \text{if } 4l + k < 2l + 3k \\ 3 & \text{if } 4l + k = 2l + 3k \\ 2 & \text{if } 4l + k > 2l + 3k \end{cases}

3 points