Assignment- 06

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

Due on 2019-03-13, 23:59 IST.

Comprehension:
Consider a differentiable and strictly convex utility function $U(x_1, x_2)$ and budget line of the consumer $P_1 x_1 + P_2 x_2 = I$. Answer following three questions.

1) Condition for utility maximization is
- $MU_1/P_1 = MU_2/P_2$
- $MRS = \text{slope of budget line}$
- Ratio of the marginal utilities of $x_1$ and $x_2 = P_1/P_2$
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers: All of the above

2) When $MU_1/P_1 > MU_2/P_2$, the consumer should consume
- more of good 1 and less of good 2
- more of good 2 and less of good 1
- both good equally
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers: more of good 1 and less of good 2
Consumer consume both the goods \((x_1^* > 0 \text{ or } x_2^* > 0)\)

No, the answer is incorrect.
Score: 0

Accepted Answers:

Consumer consume both the goods \((x_1^* > 0 \text{ or } x_2^* > 0)\)

4) Consider the utility function \(U(x_1, x_2) = \log x_1 + \log x_2\) and budget line of the consumer as \(3x_1 + 4x_2 = 120\). Optimal bundle of goods \(x_1^*\) and \(x_2^*\) consists

- \(x_1^{*}=15\) and \(x_2^{*}=20\)
- \(x_1^{*}=20\) and \(x_2^{*}=15\)
- \(x_1^{*}=0\) and \(x_2^{*}=18\)
- \(x_1^{*}=12\) and \(x_2^{*}=0\)

No, the answer is incorrect.
Score: 0

Accepted Answers:

\(x_1^{*}=20\) and \(x_2^{*}=15\)

5) Consider the utility function \(U(x_1, x_2) = x_1 + 3x_2\) and budget line of the consumer as \(x_1 + x_2 = 10\). Optimal bundle of goods \(x_1^*\) and \(x_2^*\) consists

- \(x_1^{*}=1\) and \(x_2^{*}=9\)
- \(x_1^{*}=5\) and \(x_2^{*}=5\)
- \(x_1^{*}=10\) and \(x_2^{*}=0\)
- \(x_1^{*}=0\) and \(x_2^{*}=10\)

No, the answer is incorrect.
Score: 0

Accepted Answers:

\(x_1^{*}=0\) and \(x_2^{*}=10\)

6) Consider the utility function \(U(x_1, x_2) = \min(x_1, x_2)\) and budget line of the consumer as \(3x_1 + 5x_2 = 120\). Optimal bundle of goods \(x_1^*\) and \(x_2^*\) consists

- \(x_1^{*}=15\) and \(x_2^{*}=15\)
- \(x_1^{*}=20\) and \(x_2^{*}=12\)
- \(x_1^{*}=0\) and \(x_2^{*}=24\)
- \(x_1^{*}=40\) and \(x_2^{*}=0\)

No, the answer is incorrect.
Score: 0

Accepted Answers:

\(x_1^{*}=15\) and \(x_2^{*}=15\)

7) Choose the correct statement for marginal utility and marginal rate of substitution

Marginal utility is not ordinal and changes for a monotonic transformation of the utility function
1. MRS is ordinal and does not change for a monotonic transformation of utility function
   - Both
   - None
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers: Both

2. If two goods are perfect substitutes, the indifference curve is
   - Linear
   - L shaped
   - A closed loop
   - Hyperbolic
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers: Linear

3. If two goods are perfect complements, the indifference curve is
   - Linear
   - L shaped
   - A closed loop
   - Hyperbolic
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers: L shaped

4. Choose the correct statement
   - Quasi linear preferences are linear in one good and non linear in other good
   - \( U = \min\{ax, by\} \) represents perfect substitutes
   - \( U = ax+by \) represents perfect complements
   - All of the above
   
   No, the answer is incorrect.
   Score: 0
   Accepted Answers: Quasi linear preferences are linear in one good and non linear in other good

5. Suppose that at current consumption levels an individual's marginal utility of consuming an extra pizza is 20 whereas the marginal utility of consuming an extra cold drink is 4. Then the MRS (of cold drinks for pizzas) - that is, the number of pizzas the individual is willing to give up to get one more cold drink is
   - 5
   - 2
   - 1/2
   - 1/5
   
   Choose the correct answer: 1/5
12. Rohan likes both tea and coffee and his preference for these is represented by a utility function \( U = T + C \) where \( T \) represents the no. of cups of tea and \( C \) no. of cups of coffee he consumes. Total money he has allocated for having tea or coffee is 200 and price for a cup of tea and coffee in market always fluctuate. Choose the correct alternative regarding his optimal bundle of tea and coffee.

- He will consume only tea if \( P_T > P_C \)
- He will consume only coffee if \( P_C > P_T \)
- He is indifferent between tea (T) and coffee when \( P_C = P_T \)
- All of these are true

No, the answer is incorrect.
Score: 0
Accepted Answers:
He is indifferent between tea (T) and coffee when \( P_C = P_T \)

13. A consumer faces following maximizing problem if he wants to consume bread and butter in breakfast \( \max U = \min\{S/2, B\} \) given his budget constraint for breakfast as \( S + 2B = 20 \). Here \( S \) is the no. of bread slices and \( B \) is the no. of butter cubes he consumes. Optimal no. of slices of bread and butter cubes he will consume is

- \( S^* = 10 \) and \( B^* = 5 \)
- \( S^* = 5 \) and \( B^* = 10 \)
- \( S^* = 10 \) and \( B^* = 10 \)
- \( S^* = 5 \) and \( B^* = 5 \)

No, the answer is incorrect.
Score: 0
Accepted Answers:
\( S^* = 10 \) and \( B^* = 5 \)