

Answer All Questions

1.a. Country 1 and Country 2 are going to do a production competition on two goods: t-shirts and trousers. They have one hour to prepare for the competition. *

T-shirt production: Country 1 can make t-shirts 3 t-shirts per 15 minutes. Country 2 makes at 4 t-shirts per 15 minutes.

Trouser production: Country 1 can make 5 trousers per 20 minutes, while Country 2 makes 8 trousers per 20 minutes. *(Hint: Show this information in a table for total production in 1 hr in your rough work before you calculate opportunity costs)*

What is the opportunity cost of three t-shirts for Country 1?

- ☐ 1.25 trousers
- ☐ 2.25 trousers
- ☒ 3.75 trousers
- ☐ 0.75 trousers

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1.b. On the basis of the comparative advantage theory, which country has the absolute advantage in the production of both trousers and t-shirts, as per the information in part 1.a? *

- ☐ Country A
- ☐ Both Country A and Country B
- ☒ Country B
- ☐ No country has a comparative advantage

1.c. (This part is unrelated to the above parts) *

During the COVID-19 pandemic, Bangladesh experienced shortages of rice in government storage because of a tendency of storing more by different quarters and creating an artificial crisis. According to the food ministry, the government's rice stock had fallen to a 13-year low of 300,000 tons. Some studies also suggest that households suffering from income losses due to the pandemic may have reduced rice consumption as much as 15%. Assuming the reduction in consumption was less substantial than the impact of the artificial crisis.

Hint: Draw an appropriate diagram for your own reference.

Choose the most appropriate option from the following-

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Hint: Draw an appropriate diagram for your own reference.

Choose the most appropriate option from the following-

- ☐ Both demand and supply decrease, but the fall in supply is greater than the fall in demand, resulting in an increase in output and a decrease in price
- ☐ Only supply decreases, resulting in an increase in equilibrium price and a decrease in output
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- ☐ Only demand decreases, resulting in a decrease in equilibrium price and output.

2.a. In Country Z, the demand and supply functions for toast biscuits are given as: *

$P = 250 - 2Q_d$; where Q_d is quantity demanded and

$P = 90 + 3Q_s$; where Q_s is quantity supplied

Using the above information, answer the following questions:

What would be the consumer surplus?

- ☐ 2040
- ☒ 1024
- ☐ 1735
- ☐ 1520

2.b. Now suppose an income increment affects the demand by 10 per cent. *

Assuming a parallel effect, the new demand function is $P = 275 - 2Q$

Which of the following/s is most likely to happen after the income change?

- ☐ Consumer Surplus decreases by TK 320
- ☒ New Consumer Surplus is TK 1369

1520

2.b. Now suppose an income increment affects the demand by 10 per cent. Assuming a parallel effect, the new demand function is $P = 275 - 2Q$. Which of the following/s is most likely to happen after the income change?

- ☐ Consumer Surplus decreases by TK 320
- ☒ New Consumer Surplus is TK 1369
- ☐ Producer surplus increases by TK 950
- ☐ Producer surplus increases by TK 650

2.c. Percentage change in consumer surplus between part a and b is **approximately** 34 percent

- ☒ True
- ☐ False
- ☐ Not enough information given

3 a. Given the market conditions of Product X such as:

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Demand: $P_x = 210 - 2Q_x - Q_y$;

Supply: $P_x = 45 + Q_x$

Additional Information: The market is at equilibrium and Quantity demanded for Product Y (Q_y) is 30 units.

If the increase in the market price (equilibrium) by 10TK decreases demand for Product Y (Q_y) by 15 per cent, compute the cross-price elasticity of demand with respect to Product X?

- ☐ -2.12
- ☐ 3.14
- ☒ -1.425

3.b. What is the relationship between Good X and Good Y? *

- ☒ Complements
- ☐ Substitutes
- ☐ Inferior

☐ Substitutes☐ Inferior

3.c. Suppose income across the population decreases by 15%, causing a resulting change in the demand function for Product X. The new demand function of Product X in part a changes to: $P_x = 180 - 2Q_x - Q_y$

Assuming there are no changes in supply, calculate the income elasticity of demand for Product X.

☐ 0.95☒ 1.67☐ -1.88

A copy of your responses will be emailed to shah.samiur.rahman@g.bracu.ac.bd.

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