BRAC UNIVERSITY

Inspiring Excellence

ECO101: Introduction to Microeconomics

Summer_23 | Midterm Examination | Total Marks: 30 | Duration: 1hr 15mins

Answer **Any 3** of the following questions

Question 1

$\frac{5}{20} = \frac{1}{4}$

	Time required to produce one **T-shirt**	Time required to produce one **Trouser**
China	20 mins	5 mins 20
Bangladesh	30 mins	15 mins

1

$15 \times 10 = 150$ m

15

$\frac{150}{30} =$

a. What is the opportunity cost of China to produce 5 t-shirts? **(2.5 Marks)**
b. What is the opportunity cost of Bangladesh to produce 10 trousers? **(2.5 Marks)**
c. Which country has an absolute advantage in producing Trousers? **(2.5 Marks)**
d. Which country has a comparative advantage in producing Trousers? **(2.5 Marks)**

Question 2

As it happens, the local production of cattle (cows and goats) has increased significantly and so has the availability of beef and mutton. This has coincided with a decrease in consumers' income. Let's assume that beef is an inferior good while mutton is a normal good and each market is initially at equilibrium -

a. Now, draw a demand-supply diagram to illustrate and explain the effects of the given shocks on the equilibrium price and quantity in the beef market. **(5 Marks)**
b. Draw a demand-supply diagram and explain how the events changes the equilibrium condition in the market of mutton. **(5 Marks)**

Question 3

$\frac{\Delta Q}{\Delta P}$

Given the demand and supply functions of Product X:

Demand: Px = 150 - 3Qx + 2Qy; where Qy is the quantity demanded for Product Y

Supply: Px = 30 + Qx

Additional Information: The market is at equilibrium and Quantity demanded for Product Y (Qy) is 20 units.

a. If the supplier wants to increase the price by 10TK, do you think that would be a good idea for her business in terms of revenue? **(3 marks)**

b. If a rise in market price (equilibrium) by 20TK, increases Qy by 20 per cent, then what's the cross price elasticity of demand? Comment on the relationship and elasticity. **(4 marks)**

c. If there is a lack of raw material available for the production of Product X, how would the supplier react to an increase of price in the market? **(3 marks)**

Question 4

Consider the following demand and supply equations: P = 65 - 7Q and P = 15 + 3Q. The market is in equilibrium.

a. Calculate the consumer surplus and the producer surplus. **(4 marks)**

A new 5 taka tax is imposed on sellers that shifts the original supply curve to: P = 20 + 3Q.

b. Compute the **After-tax** Consumer and Producer surplus. **(4 marks)**

c. Calculate the government's tax revenue and deadweight loss. **(2 marks)**

$\frac{P-15}{3} = \frac{P-20}{3}$

~~P-15 = 20+15~~

~~P-P = 20+15~~