BRAC University

ECO101: Introduction to Microeconomics
Summer 2018 | Final Examination
Time Duration: Two Hours

Answer any 4 questions out of 6 (Each Question carries 20 Marks) Total= 80 Marks

1. Suppose that the supply schedule of lobsters in Cox's bazaar is as follows

Price of lobster (per pound)	Quantity of lobster supplied (pounds)
$25	800
$20	700
$15	600
$10	500
$5	400

The demand schedule for lobsters Cox's Bazaar is as follows:

Price of lobster (per pound)	Quantity of lobster demanded (pounds)
$25	200
$20	400
$15	600
$10	800
$5	1,000

a) Draw the demand curve and the supply curve for lobsters in Cox's Bazaar in one diagram. What is the equilibrium price and quantity of lobsters? (4)

b) Now, during the Eid Holidays, there are increasing numbers of visitors to Cox's Bazaar , so the demand for lobster rises **greatly**, but due to a hurricane in the sea in the week before Eid, not enough lobsters were caught by the lobster industry. What will happen to the market for lobsters? Comment on the Price and Quantity of the new equilibrium using a diagram. (6)

c) With better lobster production techniques in place, the quantity of lobsters supplied to the market has increased, and customers outside of Cox's Bazaar have shown interest in purchasing more lobsters. In spite of these changes the price of lobsters in the market has remained the same. Explain using a diagram. (5)

d) Market Research has found that people have become bored of lobsters and prefer shrimp instead. Assuming the production level of shrimp has not changed, what will happen in the market for lobsters? Explain using a diagram. (5)

6. Flying Food is a small catering company providing catered meals and snacks locally and the catering industry is perfectly competitive. Flying Food has a fixed cost of 100 Taka and their variable cost includes the wages of their cooks and the cost of the food ingredients. The table below represents the variable cost associated with each level of output.

Quantity of meals	VC (in Taka)
0	0
1	200
2	300
3	480
4	700
5	1000

(a) Calculate the total cost, the average variable cost (AVC), the average total cost (ATC), and the marginal cost (MC) for each quantity of output. (6)

(b) What is the break-even price? What is the shut-down price? (4)

(c) If the price of the catered meal is 180 Taka, what is their profit maximizing/loss minimizing output? (1)

(d) Now suppose that the price at which Flying Food can sell catered meals is 210 Taka per meal. In the short run, will they earn a profit/loss? In the short run, should they produce or shut down? (3)

(e) Suppose that the price at which Flying Food can sell catered meals is 170 Taka per meal. In the short run, will they earn a profit/loss? In the short run, should they produce or shut down? (3)

(f) Suppose that the price at which Flying Food can sell catered meals is 130 Taka per meal. In the short run, will they earn a profit/loss? In the short run, should they produce or shut down? (3)

4. The demand and supply equations for commodity X are $P = 80 - 2Q_d$ and $P = 10 + 3Q_s$ respectively.

(a) Sketch the demand and supply curves in an accurately labeled diagram. (2)

(b) Find the equilibrium values of price and quantity. (4)

(c) A tax of 15 is imposed on the sellers. Calculate the new equilibrium values of price and quantity. (4)

(d) What price do buyers pay and what price do sellers receive? (1)

(e) What is the tax burden of the buyer and the tax burden of the seller? (1)

(f) Calculate the tax revenue. (2)

(g) Calculate consumer surplus and producer surplus after the tax has been imposed. (4)

(h) Calculate the deadweight loss generated by the tax. (2)

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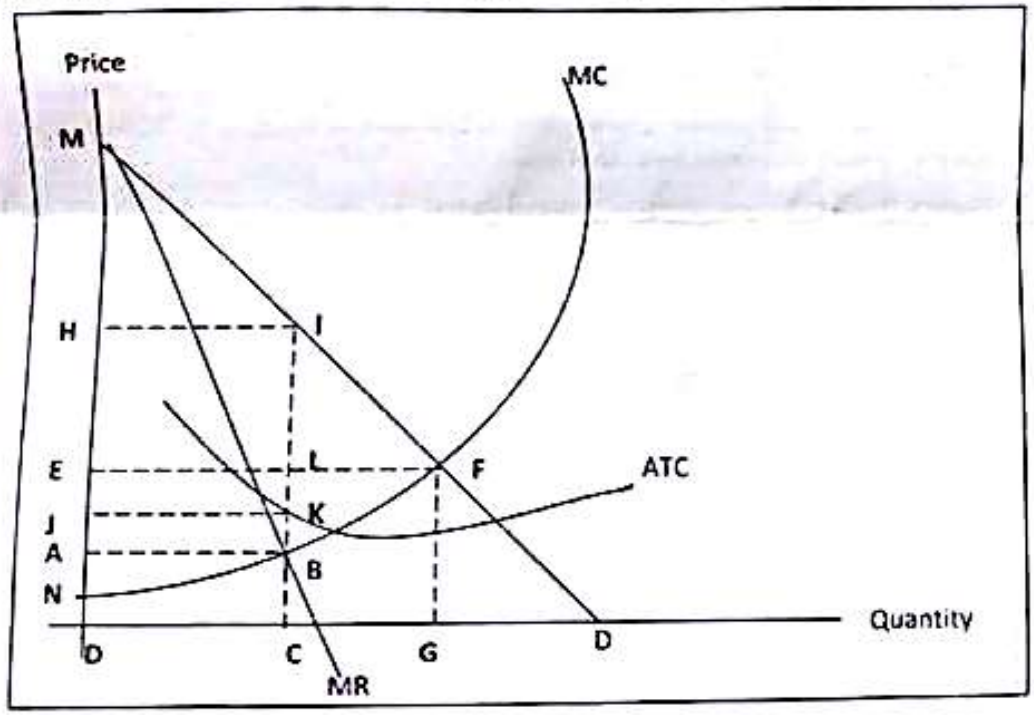
5. Consider the diagram below where the demand curve (D) and marginal cost curve (MC) of an industry is depicted. There is no fixed cost. If the industry is a single-price monopoly, the monopolist's marginal revenue curve would be MR. Answer the following questions by naming the appropriate points or areas.



(a) If the industry is a single-price monopoly, what quantity will the monopolist produce? AND what price will it charge? (3)

(b) Which area reflects the monopolist's profit? (2)

(c) Which area reflects consumer surplus under monopoly? (3)

(d) Which area reflects producer surplus under monopoly? (2)

(e) If the industry is perfectly competitive, what will be the total quantity produced? At what price? (3)

(f) Which area reflects consumer surplus under perfect competition? (2)

(g) Which area reflects producer surplus under perfect competition? (2)

(h) Which area represents the dead-weight loss to society created by the monopoly? (3)

2. The production possibility boundary for Edward the carpenter is given below.

Chair	Table
100	0
80	10
60	20
40	30
20	40
0	50

a) Draw a Production Possibility frontier (PPF) for Edward. Clearly identify the Attainable and Unattainable areas of production. (6)

b) If Edward produces 30 Tables and 30 Chairs with same level of resources, is it an efficient level of production? Why? (3)

c) What is the opportunity cost of increasing the production of "TABLE" from 10 to 20 units? (3)

d) Supply of Wood has decreased due to strict Government regulation on cutting down trees. Draw the new PPF. (3)

e) Edward has two factories. One produces chairs and the other produces tables. The factory that produces chairs caught on fire and some of the raw materials got destroyed. However the factory that produces tables remained intact. Show the shift from OLD to NEW PPF. (4)

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3. The demand and supply equations for commodity X are $P = 60 - \frac{1}{3}Q_D$ and $P = -20 + \frac{3}{4}Q_S$ respectively.

(a) Sketch the demand and supply curves in an accurately labeled diagram. (2)

(b) Find the equilibrium values of price and quantity. (4)

(c) Copy and complete the following table (show the steps of your calculations) (6)

P	Q_D	Q_S
20		
30		
40		

(d) Calculate the price elasticity of demand for commodity X when its price increases from 30 to 40. Is it price elastic or inelastic (say why)? (2+1)

(e) Calculate the price elasticity of supply for commodity X when its price increases from 30 to 40. Is it price elastic or inelastic (say why)? (2+1)

(f) Assume that the coefficient of price elasticity of supply which you calculated does not change, by what percentage would the quantity supplied of X change if its price fell by 20%? Would the change be an increase or a decrease? (2)