

Group Assignment for Economics

- ❖ Create groups; each composed of at most 3 students.
- ❖ Your answer should be legible.
- ❖ Do not copy answers from one another!!
- ❖ Submission date: December 9, 2021 (Hidar 30, 2014)

Show all the necessary steps. (20%)

1. The demand functions of the 3 commodities: A, B and C are

$$D_A = 20 - 3P_A + P_B + P_C$$

$$D_B = 30 + P_A - 5P_B$$

$$D_C = 15 + P_A - 3P_C$$

The corresponding supply functions are

$$S_A = 9P_A$$

$$S_B = 30P_B - 3$$

$$S_C = 3P_C - 1, \text{ then find equilibrium price and quantity of each of the commodities. (3 pts)}$$

2. If demand function is given by $P = 50 - 0.1Q$. Find the unit elastic point on the demand curve. **(2 pts)**
3. Suppose the utility function of a person consuming two commodities X and Y with income of Birr 1000 is given by $U = 30X^{0.2}Y^{0.8}$. If the per unit price of X and Y is Birr 2 & Birr 8 respectively, then find utility maximizing consumption of X and Y and maximum utility. **(2 pts)**
4. Given total cost function $TC = 10 + 6Q - 0.9Q^2 + 0.05Q^3$, then calculate minimum AC and minimum MC. **(2 pts)**
5. Assume the monopolist's demand function is $Q = 25 - 0.25P$. If the total cost is $TC = 40Q - 2Q^2$, then what will be the maximum profit for the monopolist? **(2 pts)**
6. Maximize output for a firm when $Q = L^{0.5}K^{0.5}$. The price per unit of K and L is Birr 2 and Birr 4 respectively, and total cost is Birr 80. **(2 pts)**
7. What are the main macroeconomic problems? **(2 pts)**

8. Calculate GDP for a particular year using income and expenditure approaches. **(3 pts)**

Consumption Spending	1000
Wages and Salaries	800
Rent	100
Government Purchases	200
Profit	300
Exports	400
Interest	250
Gross Private Investment Spending	400
Imports	550

9. Briefly explain macroeconomic policy instruments. **(2 pts)**

BEST OF LUCK!!