WOLDIA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ECONOMICS

Introduction to Economics Assignment for 1st Year Natural Science Students

Name_____

ID_____

Section_____

Assignment (home take exam) loads: 30%

Remarks:

1. **This assignment is just some parts of the courses and is not exhausted. So, please try to attempt all review questions found at the end of each chapter.**
2. **The assignment is done individually.**
3. **Don't copy directly from your friends or an internet. You have to paraphrase while you use internet.**
4. **You will be rewarded if you explain the answers using your own words after understanding the questions.**
5. **Write you answer neatly and in the order of the questions.**

Final Submission Date: a week before final exam.

Chapter I: Methods of Economics and Opportunity Cost (5 points)

1.1. Briefly explain methods of economic analysis and methods of reasoning and give your own examples (at least two) for each method. **(1 points)**

1.2. Explain the basic economic questions and show how these questions are answered by different alternative economic systems? **(1 points)**

1.3. Consider a simple economy producing two goods: Teff and Printer. And the following table depicts several points on the economy's production possibility frontier.

Types of product	Alternative production possibilities					
	A	B	C	D	E	F
Teff (1000's q/year)	0	1	2	3	4	5
Printer (100's/year)	55	50	45	35	20	0

a. Graph this economy's production possibility frontier. **(1 points)**

b. Why is also PPF concave? Again, make sure to explain economic intuition behind that fact. **(1 points)**

c. Suppose the economy is currently producing 2000 quintals of Teff and 4,500 Printers. What is the opportunity cost of producing additional 1000 Printers? **(1 points)**

Part II: The Theory of Demand and Supply (4 points)

2.1. The law of demand states an inverse relationship between price and quantity demanded. There are goods which may violate this law and their demand curve is positively sloped. What kinds of goods are they? Can you mention Examples? And what conditions must be fulfilled for such commodity? **(1 points)**

2.2. Suppose there are 600 consumers in Woldia supermarket and they are grouped in three categories as follows – 250 consumers have identical demand function Q1 = 9-1/2P; 150 have identical demand equation of Q2 = 4 - 1/5P, and the other 200 consumers have the same demand equation of the form Q3 = 8 - P. What is the market demand? What is the quantity demanded in the market when price is Br.4? **(1 points)**

2.3. Suppose there are 120 identical buyers and 100 similar sellers in the market for teff. And the annual demand (for a quintal of teff) and supply functions of typical representative buyer and seller are Qd = 45 – 0.25P and Qs = 0.1P + 6 respectively. What is the market equilibrium price and how many quintals of teff are transacted during a year? What is the quantity demanded and supplied at 8 and calculate the shortage or surplus quantity? **(1 points)**

2.4. The quantity demanded for the commodity increased from 4 to 6 units due to the fall in price of other good by 2%. What is the cross-price elasticity of demand and what type of commodities are they? **(1 points)**

Chapter III: Theory of Consumer Behaviour (4 points)

3.1. Explain briefly the difference between ordinal and cardinal utility approach? **(1 points)**

3.2. Suppose that the price of Apple is $6 and the price of Banana is $2. You have a total income $140 to spend and your preferences over Apple and Banana are defined as $U(A,B) = A^{3/4}B^{1/4}$.

a. Calculate the marginal utility function of Apple? **(0.5 points)**
b. Calculate the marginal utility function of Banana? **(0.5 points)**
c. Calculate the $MRS_{A,B}$. What does the MRS measure? **(1 points)**
d. Show graphically the optimal allocation of the budget over your preference. **(1 points)**

Chapter IV: Theory of Production and Cost (7 points)

4.1. Consider the following short run production function: $Q = 6L^2 - 0.4L^3$

a. Find the value of L that maximizes output. **(1 points)**
b. Find the value of L that maximizes marginal product. **(1 points)**
c. Find the value of L that maximizes average product. **(1 points)**

4.2. The Average Cost function for a product is given by $AC = 0.006Q^2 - 0.02Q - 30 + \frac{5000}{Q}$, where Q is the output produced.

a. Find the MC when 50 units are produced. **(0.5 points)**
b. Find the TC function. **(0.5 points)**
c. Find the level of output for which MC= AC. **(1 points)**

4.3. Suppose Alem wants to maximize her profit from Teff production. Alem uses both labor and capital, and efficient combinations of Labor and capital that are sufficient to produce Teff is by the function $0.25L^{0.5}K^{0.5}$. If the prices of labor (w) and capital (r) are $ 5 and $ 10 respectively.

a. Find the least cost combination of L and K. **(1 points)**
b. Find the minimum cost. **(1 points)**

Chapter V: Market Structure (3 points)

5.1. Discuses each market structure for not more than a half page (*don't wright their assumptions*) and give your own example in context to our country. **(1 points)**

5.2. The total revenue and cost function of a firm are given as follows

R(Q) = 1400Q - 7.5Q2

C(Q) = Q3- 6Q2 + 140Q + 750, Use the MR-MC approach

a. Find the level of output that maximizes profit? **(1 points)**
b. Find the maximum profit? **(1 points)**

Chapter VI: Macroeconomic Concepts (7 points)

6.1. Consider the following information for a particular economy.
Total population = 60 million Number of employed = 30 million
Total labor force = 40 million Natural rate of unemployment = 12%

a. Find the total unemployment rate. **(1 points)**
b. Calculate the cyclical unemployment rate. **(1 points)**

6.2. Consider an economy that produces and consumes Bread and Automobile. Data for two different years 2005 and 2010 is given in the following table.

Year	2005	2010
Price of Automobiles	$ 5000	$ 6000
Price of a loaf of bread	$10	$20
Number of automobiles produced	100	120
Number of loaves of bread produced	500,000	400,000

Using the year 2005 as a base year,

a. Calculate the nominal and real GDP of 2010. **(1 points)**
b. Find the value of GDP Deflator for the year 2010 and interpret. **(1 points)**
c. Calculate the inflation rate in 2010. **(1 points)**

6.3. What is the difference and main functions of fiscal and monetary policy instruments? If Ethiopia experienced high employment rate and inflation rate in different periods of time. Give your own justification how this macroeconomic can be minimized using different policy instruments. **(2 points)**