# STRATHMORE UNIVERSITY BUSINESS SCHOOL

MASTER OF SCIENCE IN DEVELOPMENT FINANCE

**END OF SEMESTER EXAMINATION**

**MDF 8102 - Micro and macroeconomics** - December 2019

**Date:** Monday, 2nd December 2019 **Time**: 3 Hours

**Instructions**:

1. Attempt question **ONE** and **any other THREE** questions

**Question 1 (Compulsory) (40 Marks)**

a) Derive the LM curve using the theory of liquidity preference and comment on why it slopes upward **(10 Marks)**

b) Discuss the three methods of calculating GDP **(15 Marks)**

c) Explain economic welfare concepts and discuss the welfare implications of a tariff **(15 Marks)**

**Question 2 (20 Marks)**

You are provided the following information for a duopoly in a small town with 140 residents. The "good": cell phone service with unlimited anytime minutes and free phone. Two firms: Zain, Yu. Each firm's costs: FC = \$0, MC = \$10

The table below shows the Small town's demand schedule

| ***P*** | ***Q*** |
|---|---|
| \$0 | 140 |
| 5 | 130 |
| 10 | 120 |

| | |
|---|---|
| 15 | 110 |
| 20 | 100 |
| 25 | 90 |
| 30 | 80 |
| 35 | 70 |
| 40 | 60 |
| 45 | 50 |

*Required:*

a) Derive the small town competitive and monopoly outcomes from the data provided. Justify your outcomes. **(8 Marks)**

b) What outcomes should we expect from our duopolists? **(12 Marks)**

**Question 3 (20 Marks)**

A consumer has a utility function of the form,

$$u(x_1, x_2) = x_1^{\alpha} x_2^{b}.$$

where $x_1$ is the quantity of good 1 consumed and $x_2$ is the quantity of good 2 consumed. The price per unit of good 1 is *Ksh* $P_1$ and *Ksh* $P_2$ is the price per unit of good 2. The consumer has $m$ shillings to spend on the two goods. Determine the optimal quantities of the two goods the consumer should purchase so as to maximize utility.

**Question 4 (20 Marks)**

We can write the demand and supply curves algebraically as follows:

Demand: $Q = a - bP$

Supply: $Q = c + dP$

a) Find the values of the constants a, b, c, and d in the supply and demand equations based on the supply and demand for the world copper market. The relevant numbers for the copper market are as follows: Equilibrium Quantity $Q^* = 18$ million metric tons per year (mmt/yr) Equilibrium Price $P^* = \$3.00$ per pound, Elasticity of supply $E_S = 1.5$ Elasticity of demand $E_D = -0.5$. **(14 Marks)**

b) What would a 55-percent decline in demand do to the price of copper? **(6 Marks)**

**Question 5 (20 Marks)**

Using a hypothetical case study of two countries and two goods, demonstrate how nations can gain from international trade by showing clearly the nation with absolute advantage and comparative advantage and the sources of comparative advantage.