



KABARAK

UNIVERSITY

UNIVERSITY EXAMINATIONS

2010/2011 ACADEMIC YEAR

**FOR THE DEGREE OF BACHELOR OF COMMERCE AND
BACHELOR OF SCIENCE IN ECONOMICS AND MATHEMATICS**

COURSE CODE: ECON 110

COURSE TITLE: INTRODUCTION TO MICROECONOMICS

STREAM: Y1S1

DAY: TUESDAY

TIME: 2.00 – 4.00 P.M

DATE: 7/12/2010

INSTRUCTIONS:

- 1.** Answer **ALL** the questions in section **A**. this section carries 30 marks.
- 2.** In section **B**, answer **TWO** questions. Each question carries 20 marks.

PLEASE TURNOVER

SECTION A (30 MARKS)

QUESTION ONE

Assume that the Kenyan coffee industry is modeled by the following:

$$P = Q_D + 27$$

$$P = 8Q_S$$

Where: Q_D = quantity of coffee consumed per month (in thousands)

Q_S = quantity of coffee produced per month (in thousands), and

P = price per kg (shillings)

Subject to $Q_D \geq 0$, $Q_S \geq 0$, and $p \geq 0$.

- (a) Deduce what the price elasticity of supply is (Hint: you do not need to calculate it). (1 mark)
- (b) Calculate the equilibrium price and quantity. (3 marks)
- (c) Draw a diagram and show the consumer and producer surpluses. (5 marks)
- (d) Assuming no government intervention, calculate consumer, producer and total surpluses. (5 marks)
- (e) Suppose the government decides to impose a tax of 90 cents per kilogram of coffee produced, calculate the new equilibrium price and quantity. (3 marks)
- (f) Calculate the consumer surplus, producer surplus, tax revenue and the deadweight loss. (8 marks)

QUESTION TWO

Use appropriate diagrams to explain why the government prefers to impose a tax on goods that have an inelastic demand. (5 marks)

SECTION B (40 MARKS)

QUESTION 1

Tamara’s mum has given her Shs. 180 to buy lunch from a restaurant. The table below shows Tamara’s marginal utilities from consuming two goods: Chips and Sausage. The price of chips is Shs.40 and the price of sausage is shs.20.

Chips		Sausages	
Quantity	MU chips	Quantity	MU sausages
1	200	1	160
2	160	2	140
3	120	3	120
4	80	4	100
5	60	5	80
6	40	6	60
7	20	7	40

- (a) To maximize utility, how much of each good will Tamara buy? (4 marks)
- (b) What is the total utility of the utility-maximizing combination of chips and sausage? (4 marks)
- (c) Draw a budget line and an indifference curve to illustrate your answer. (3 marks)
- (d) Suppose Tamara’s income increases from shs. 180 to shs.240, ceteris paribus.
What will her new utility maximizing combination of chips and sausages be? (4 marks)
- (e) What is the total utility at the new utility-maximizing combination of chips and sausages? (4 marks)
- (f) Draw the new budget line using the diagram drawn for (b) above. (1 mark)

QUESTION TWO

You are a City Planner at the Nairobi City Council. Part of your work is to predict how many people park their cars in the Central Business District (CBD) and the size of the total revenue generated from parking fees. You know that the short-run price elasticity of demand for parking fees is 0.4 whilst the long-run price elasticity of demand for parking fees is 2.5. The current

number of people parking in the CBD is 50,000 per day. The city is considering a 114% increase in parking fees.

- (a) Is the price elasticity of demand elastic or inelastic in the short-run? (2 marks)
- (b) Is the price elasticity of demand elastic or inelastic in the long-run? (2 marks)
- (c) How many people are expected to park their cars in the CBD in the short-run if parking fees increase by 114%? Show your calculations. (4 marks)
- (d) Will total revenue increase or decrease in the short-run? Show your calculations. (4 marks)
- (e) How many people are expected to park their cars in the CBD in the long-run if parking fees increase by 114%? Show your calculations. (4 marks)
- (f) Will total revenue increase or decrease in the long-run? Show your calculations. (4 marks)

QUESTION THREE

- (a) Explain the income and substitution effects of a change in the price of a normal good. Use appropriate diagrams. (10 marks)
- (b) On 30th October 2010, the Secretary General of the Central Organization of Trade Unions (COTU), Mr Francis Atwoli, called on a strike by tea workers to protest on the acquisition of tea-plucking machines by tea factories. His argument is that the tea plucking machines will lead to job losses and worsen the current unemployment rate in Kenya.
 - (i) Explain the impact of the strike on the equilibrium price and quantity of tea. Use appropriate diagrams. (5 marks)
 - (ii) Suppose the factories go ahead and use tea-plucking machines to pluck tea, explain the effect of using the machines on the equilibrium price and quantity. Use appropriate diagrams. (5 marks)