

NATIONAL UNIVERSITY OF LESOTHO
B.A. SUPPLEMENTARY EXAMINATIONS
EC4305 – INTERNATIONAL TRADE

August 2023

100 Marks

3 Hours

Instructions: 1) Answer **any four** questions.
2) Show all your workings.

Question 1

- a) The 2022 International Labour Organization Flagship Report on labor productivity shows that one worker in Lesotho (Home) can produce three bottles of wine or two pairs of shoes, whereas, in South Africa, one worker can produce either two bottles of wine or three pairs of shoes. Each country has four workers.
- i. On the same graph, show the production possibility frontiers of both countries. [5]
 - ii. Using the concept of opportunity cost, which country has a comparative advantage in the production of shoes? [5]
 - iii. Why do some low-wage countries such as China pose a threat to manufacturers in industrial countries such as the United States, whereas other low-wage countries, such as Lesotho do not? [5]
- b) Suppose that the autarky domestic consumption is nine bottles of wine and two pairs of shoes, while that of South Africa is two bottles of wine and nine pairs of shoes.
- i. On the same graph in (a), show the indifference curves of both countries. [5]
 - ii. When both countries decide to engage in international trade, the world relative price of a pair of shoes becomes $P_s/P_w = 1$. Explain how the patterns of trade will unfold, and label the trade patterns for Lesotho on the graph. [5]

Question 2

- a) What is paradoxical about the results of Leontief's test of the Heckscher-Ohlin model? [5]
- b) Suppose Indonesia and Canada trade in sarongs and beer. Use the following data for Canada to answer the questions that follow:

Sarongs:	Sales revenue:	$P_S \cdot Q_S = \$80$
	Payment to labor:	$W \cdot L_S = \$80$
	Payments to capital:	$R \cdot K_S = \$40$
	Percentage increase in price:	$\frac{\Delta P_S}{P_S} = 25\%$
Beer:	Sales revenue:	$P_B \cdot Q_B = \$80$
	Payment to labor:	$W \cdot L_B = \$30$
	Payments to capital:	$R \cdot K_B = \$60$
	Percentage increase in price:	$\frac{\Delta P_B}{P_B} = 0\%$

- i. Which industry is labor-intensive? [5]
- ii. Calculate the percentage change in the rental on capital. [10]
- iii. Compare the magnitude of the percentage in the rental on capital in (iii) with that of labor. [5]

Question 3

- a) The 2022 World Economic Outlook shows that the United States, France, and Italy are among the world's largest producers measured by GDP. To answer the following questions, assume that their markets are monopolistically competitive, and use the gravity equation with $B = 93$ and $n = 1.25$.

Table 1: World Economic Outlook

Country	GDP in 2012 (\$billions)	Distance from the United States (miles)
France	2,776	5,544
Italy	2,196	6,229
United States	14,991	-

- i. Compare the expected level of trade between the United States and France; and between the United States and Italy. [5]
- ii. The distance between Paris and Rome is 694 miles. Would you expect France to trade more with Italy or with the United States? Explain what variable (i.e., country size or distance) drives your result. [NB: Paris is a capital of France, and Rome is a capital of Italy] [5]

b) A Shoe-production firm has the following costs of production:

Fixed costs: M100
 Marginal costs: M50/unit

- i. Explain how increasing returns in production can be the basis for trade. [5]
- ii. Fill in the missing information in Table 2 [5]
- iii. At what range of output does this firm experience increasing returns to scale? [5]

Table 2: Firm Variables

Quantity, Q	Variable Costs	Total Costs	Average Costs
5			
25			
50			
80			
120			
165			
215			
270			

Question 4

Lesotho is a small country that takes the world price of corn as given. Its domestic supply and demand for corn are given by the following:

$$D = 45 - 3P$$

$$S = 3P - 9$$

- a) With the aid of a graph, determine the autarky equilibrium price and quantity. [5]
- b) Suppose Lesotho decides to engage in international trade. Determine graphically, the quantity demanded, quantity supplied, and import given the world price of M6 per bushel of corn. [5]
- c) If the Revenue Services Lesotho imposes a tariff of $t = 1$, what is the new domestic price and the amount of imports? Show on import demand market. [5]
- d) What is the net effect of the tariff on Lesotho's welfare? [10]

Question 5

A giant South Korean manufacturer of electronic devices Samsung is partnering with the Lerotholi Polytechnic (LP) to set up a Samsung Innovation Campus following a signing up of a memorandum of understanding on December 12th, 2022. Consider a simplified version of the offshoring model and assume that Samsung production is composed of only two activities: components production and research and development (R&D). (*note, components production requires low-skilled labor, whereas R&D requires high-skilled labor*).

- a) If initially, South Korea cannot engage in offshoring activities, use the production possibility curve to show the autarky equilibrium for South Korea. [5]
- b) If South Korea decides to “slice” the Samsung production activities and offshore components production to LP, show with interpretation, offshoring equilibrium for South Korea. [10]
- c) Show and interpretation terms of trade when the price of R&D declines. [10]

Question 6

In his inauguration speech, the Prime Minister emphasized that Lesotho welcomes foreign direct investment (FDI) that amongst other things creates jobs and opens new markets, following the national objectives. Suppose Lesotho receives FDI inflows, use the long-run specific-factors model to answer the questions that follow. [*NB: assume labor and capital as the only two inputs in the production of food and televisions, and that televisions are capital-intensive whereas food is labor-intensive*].

- a) Only developing countries compete for FDI. Discuss. [5]
- b) Using graphs, show the impact of the FDI inflows on the output of each good. [10]

- c) Using the same graph in b) show how the FDI inflows affect wages in terms of food and televisions. **[5]**
- d) Some data has shown that for some countries, remittances account for a larger source of income than foreign aid. Should these countries have policies to encourage emigration? Discuss. **[5]**