

NATIONAL UNIVERSITY OF LESOTHO
BA EXAMINATIONS
EC2301 – Fundamentals of Economic Analysis and Policy

January 2024

100 Marks

3 Hours

INSTRUCTIONS:

- 1) Section A is compulsory.
- 2) Answer any other three questions from Section B.
- 3) Clearly show all your workings to earn full marks.
- 4) All mathematical solutions with more than 2 digits after a decimal comma should be rounded off to 3 decimal places.

SECTION A

Question 1

Table 1 presents information on gross domestic products and populations of two SADC countries for the years 2000, 2005, 2010, 2015, and 2020.

Table 1

	Lesotho		Botswana	
	GDP (US\$ Thousand)	Population (Million)	GDP (US\$ Thousand)	Population (Million)
2000	1 450 000	1.99863	8 490 000	1.726985
2005	1 670 000	1.977424	10 150 000	1.892807
2010	1 990 000	2.022747	11 350 000	2.091664
2015	2 360 000	2.118521	13 530 000	2.305171
2020	2 990 000	2.254100	14 800 000	2.446402

Source: World Bank

- (a) Compute the average GDP growth rate for the periods 2000 and 2005; 2005 and 2010; 2010 and 2015; 2015 and 2020 for each country in table 1. [8]
- (b) Compute the average GDP per capita growth rate for the periods 2000 and 2005; 2005 and 2010; 2010 and 2015; 2015 and 2020 for each country in table 1. [12]
- (c) State the three (3) methods or approaches of calculating GDP. [3]
- (d) What is the difference between GDP in nominal value and GDP in real value? [2]
-

SECTION B

Question 2

- (a) What is cost-benefit analysis? [2]
- (b) State all the five steps that an analyst or policy maker has to follow when choosing between various projects using cost-benefit analysis. [5]
- (c) Assume that the city council of Maseru has to choose one among the following three alternatives: setting up a school, setting up a hospital, and setting up a playground. The estimates of expected cost and benefit of all the three projects are shown in table 2.

Table 2

Project	Cost (M)	Benefit (M)
Playground	300 000 000	600 000 000
School	400 000 000	1 000 000 000
Hospital	1 000 000 000	1 500 000 000

- i. Use the two measurements of cost-benefit analysis to compute the worthiness of each project for the city council of Maseru. [6]
 - ii. How does the city council of Maseru arrive at the optimal choice if both measurements of cost-benefit analysis are implemented? [4]
- (d) Mpho has a lot of free time and she decides to pick up a new hobby. She has two options. She can take art classes or can sign up for French cooking classes for the whole month. She estimates that the art classes would cost her M700 per month, and would provide her with a benefit of M1 000. On the other hand, the cooking classes would cost her M1 200 per month, but provide her benefits worth M1 600.

 - i. Calculate the two measurements of cost-benefit analysis for each choice. [4]
 - ii. Which is the optimal choice for Mpho and why? [4]

Question 3

- (a) State and briefly explain any two (2) reasons why studying public policy is important? [4]
- (b) State and explain any three (3) reasons why addressing income inequality is important. [6]
- (c) Consider an income distribution over a sample of 10 Basotho individuals in 2021: M5 000; M20 000; M45 000; M80 000; M10 000; M35 000; M150 000; M42 000; M36 000 and M28 000. Suppose the poverty line is M21 000. Calculate the following measurements of poverty.

 - i. Headcount Ratio (HCR). [1]
 - ii. Poverty Gap Ratio (PGR). [3]
 - iii. Income Gap Ratio (IGR). [2]

- (e) Suppose the income distribution of the same 10 Basotho individuals in 2023 was now M8 000; M24 000; M45 000; M85 000; M12 000; M35 000; M120 000; M40 000; M38 000 and M30 000 respectively. Assuming that the poverty line did not change, calculate the HCR, PGR and IGR associated with these new income levels. [6]
- (f) As a policy maker, how would you target poverty reduction in each of the measurements of poverty associated with the changes in income. [3]

Question 4

- (a) What is externality? Using an example, explain the difference between a positive externality and a negative externality. [5]
- (b) Briefly explain any three (3) reasons for government intervention in the market. [5]
- (c) Clearly explain any three (3) ways by which government can correct market failure [5]
- (d) State and explain five (5) reasons that can limit government intervention and how each can be addressed? [10]

Question 5

- (a) What are institutions and briefly explain any two ways through which good institutions promote economic growth? [6]
- (b) On the same diagram, clearly draw a model of a Lorenz Curve representing a nation with a very small degree of income inequality, and label it Norway and a Lorenz curve representing a nation with a very high degree of income inequality, and label it South Africa. [5]
- (c) From your Lorenz curves for Norway and South Africa, if the value of B for Norway and South Africa is 0.42 and 0.091 respectively and the total area of the triangle below the line of perfect equality is 0.5 for each country. Calculate the Gini coefficient for each country. What does the value of the Gini coefficient mean in each case? [8]
- (d) With the aid of a diagram, explain how Kuznets relate the link between economic growth and income inequality. [6]