NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF ECONOMICS ACCOUNTING AND FINANCE

QUALIFICATION:	**BACHELOR OF ECONOMICS HONOURS DEGREE**		
QUALIFICATION CODE:	08HECO	**LEVEL:**	8
COURSE CODE:	AME820S	**COURSE NAME:**	ADVANCED MACROECONOMICS
SESSION:	NOV 2024	**PAPER:**	THEORY
DURATION:	3 HOURS	**MARKS:**	100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER (S)	Prof. T. Sunde
MODERATOR:	Dr Reinhold Kamati

INSTRUCTIONS
1. Answer FOUR (4) questions.
2. Write clearly and neatly.
3. Number all the answers.

PERMISSIBLE MATERIALS
1. Ruler
2. Calculator

THIS QUESTION PAPER CONSISTS OF 4 PAGES, INCLUDING THE COVER PAGE

QUESTION 1 [25 marks]

Explain how economists use models to understand the economy and discuss the limitations of market-clearing models in the context of macroeconomic analysis. In your answer, address the following:

a) Define and differentiate between microeconomics and macroeconomics. **(5 marks)**

b) Describe the process of building an economic model and explain its usefulness in summarising the relationships among economic variables. Provide an example of such a model. **(10 marks)**

c) Define a market-clearing model and explain why the assumption of price flexibility may not always be realistic in the short run. Use real-world examples to support your argument. **(10 marks)**

QUESTION 2 [25 marks]

Perform the following calculations using the data provided below for Namibia's economy. This question requires a comprehensive understanding of inflation, GDP, price indices, and the implications of inflation on policymaking in Namibia. Show all workings and provide explanations for each step.

Year	Nominal GDP (in billions N$)	Real GDP (in billions N$, base year 2010)	GDP Deflator	Consumer Price Index (CPI)	Inflation Target (%)
2020	200	185	?	110	3
2021	220	195	?	115	3
2022	230	198	?	118	3

a) Calculate the GDP Deflator for each year for Namibia based on the given Nominal and Real GDP values. Briefly explain what the GDP Deflator represents in the context of the Namibian economy. **(5 marks)**

b) Determine the annual inflation rate using the GDP Deflator for the periods 2020-2021 and 2021-2022. Compare these inflation rates with Namibia's inflation target. Was the target met? Provide possible reasons for any discrepancies. **(5 marks)**

c) Calculate the inflation rate for each pair of consecutive years using the Consumer Price Index (CPI) values. Compare the inflation rates derived from the CPI and GDP Deflator, explaining why the results might differ in Namibia, considering factors like consumption patterns and the external economy. **(5 marks)**

d) Assume the Bank of Namibia adjusts the prime interest rate by 0.5% for every 1% deviation from the inflation target. Based on the CPI inflation rates for 2021 and 2022, calculate how the Bank of Namibia would adjust the interest rate each year. Explain the potential effects of these interest rate changes on Namibia's economy, particularly on housing, consumer spending, and investment sectors. **(5 marks)**

e) Reflect on the implications of using different inflation measures (CPI vs GDP Deflator) for policymaking in Namibia. Which measure is more appropriate for wage negotiations, and which is better for fiscal policy decisions? Justify your response. **(5 marks)**

QUESTION 3 [25 marks]

As a small open economy, Namibia interacts significantly with the rest of the world through trade and capital flows. Using the open economy framework, answer the following questions:

1. National Income Identity for an Open Economy: Namibia's national income identity can be expressed as $Y = C + I + G + NX$, where Y is the GDP, C is consumption, I is investment, G is government spending, and NX is net exports. Given the following data for Namibia in 2023:

    - GDP (Y) = N$ 500 billion
    - Consumption (C) = N$ 300 billion
    - Government spending (G) = N$ 100 billion
    - Net Exports (NX) = N$ − 20 billion

    a) Calculate Namibia's investment (I) for 2023. **(5 marks)**

    b) Namibia has been running a trade deficit ($NX < 0$). Discuss how a trade deficit is related to net capital outflow (NCO) and explain what the sign of net exports (-20 billion) implies for Namibia's net capital outflow. **(5 marks)**

    c) Suppose Namibia's real exchange rate depreciates by 10% due to market forces. Explain how this depreciation might affect Namibia's trade balance (NX) in the short and long run. What would be the likely impact on exports, imports, and net exports? **(5 marks)**

    d) The Namibian government plans to increase its spending by N$ 50 billion without increasing taxes. Use the open economy model to predict how this fiscal policy could affect Namibia's trade deficit and exchange rate. Provide a step-by-step explanation. **(5 marks)**

    e) As an economic advisor to the Namibian government, recommend two policies to reduce the trade deficit. Justify how each policy would influence net exports, exchange rates, and overall economic stability. **(5 marks)**

QUESTION 4 [25 marks]

Namibia is working to boost its economic growth through policies that affect capital accumulation and population growth. Using the Solow Growth Model, answer the following questions and provide well-labelled diagrams to support your explanations:

a) Explain how the Solow growth model determines the steady-state levels of capital per worker and output per worker. Draw a figure showing the steady-state capital per worker and output per worker, labelling the savings curve and depreciation line and indicating the steady-state level of capital. **(10 marks)**

b) Analyse the impact of an increase in the savings rate on the steady-state level of capital per worker and output per worker. Draw a new figure showing how the increase in the savings rate shifts the savings curve and indicates the new steady state. **(5 marks)**

c) Discuss the concept of the Golden Rule level of capital in the Solow model. Explain the conditions that must be met to achieve the Golden Rule level of capital and draw a diagram showing how the Golden Rule level of capital compares to the current steady state. **(5 marks)**

d) Describe the effect of an increase in the population growth rate on the steady-state level of capital per worker. Draw a figure that illustrates how the increase in population growth shifts the steady state, labelling the new steady-state levels of capital per worker and output per worker. **(5 marks)**

QUESTION 5 [25 marks]

Economic fluctuations, often referred to as business cycles, are a key feature of macroeconomic analysis. Using the Aggregate Demand (AD) and Aggregate Supply (AS) model, answer the following questions and provide well-labelled diagrams where necessary.

a) Explain how short-run economic fluctuations are measured using GDP and unemployment data. Provide a diagram to illustrate the business cycle, showing expansions and recessions. **(5 marks)**

b) Discuss how the Aggregate Demand curve is derived and explain why it slopes downward. Illustrate how a decrease in consumer confidence might shift the Aggregate Demand curve with a diagram. **(5 marks)**

c) Analyse the difference between the short-run and long-run Aggregate Supply curves. Explain how price flexibility, in the long run, affects the economy's output and employment. Provide a diagram to support your answer. **(5 marks)**

d) Suppose Namibia experiences a negative supply shock due to a disruption in oil supply. Using the AD-AS model, explain how this shock would affect the economy in the short run. Provide a diagram to show how the Aggregate Supply curve shifts and the resulting changes in output and prices. **(5 marks)**

e) Discuss the role of stabilisation policies in managing short-run economic fluctuations. Explain how monetary or fiscal policy can mitigate the effects of a recession. Use a diagram to illustrate how these policies can shift the Aggregate Demand curve. **(5 marks)**