National University of Science and Technology
Think in Other Terms

FACULTY OF COMMERCE
DEPARTMENT OF FINANCE
BACHELOR OF COMMERCE HONOURS DEGREE IN FISCAL STUDIES
PART IV – 2ND SEMESTER FINAL EXAMINATION – MAY 2011
NATIONAL INCOME ACCOUNTING [CFS 4204]
TIME ALLOWED: 3 HOURS

INSTRUCTIONS TO CANDITATES

1. **Answer ANY FOUR Questions.**
2. **Start the answer to each full question on a fresh page of the answer sheet.**
3. **Questions may be written in any order, but must be legibly numbered.**
4. **Write legibly.**
5. **Show workings**

ADDITIONAL REQUIREMENTS

6. **Graph paper**

INFORMATION FOR CANDIDATES

The paper contains six (6) questions.

All whole questions carry equal marks [25 marks] and part marks are indicated in brackets at the end of each part question.

The economies in this question paper are intended to be fictitious.

QUESTION 1

a) Use a well-labelled diagram to describe the open economy circular flow model of national income. [13 marks]
b) Identify and briefly explain six limitations of national income statistics. [12 marks]

[25 MARKS]

QUESTION 2

Study the data below for Zimboland and attempt the questions that follow:

SCHEDULE A

	Z billions
Income from employment	226.4
Gross Trading Profits of companies	65.6
Gross Trading Surplus of public enterprises	6.4
Stock Appreciation	4.9
Imputed Charge for the consumption of non-trading capital	3.2
Income from Rent	24.8
Income from self-employment	33.0

SCHEDULE B

	Z billions
Imports of goods and services	112
Investment in stocks	5.7
Gross Domestic fixed investment	70.6
Exports of goods and services	107.5
General government final expenditure	85.8
Indirect taxes	64
Subsidies	2.6
Consumer Expenditure	258.3

a) Use the income approach and the output approach to calculate Gross Domestic Product at Factor Cost for Schedule A and Schedule B respectively. [17 marks]
b) Comment on the additions or subtractions that you made to ensure agreement between the two methods of measuring national income. [8 marks]

[25 MARKS]

QUESTION 3

a) Study the following hypothetical Gross National Product (GNP) figures for a European economy and attempt the questions that follow:

Year	Gross National Product (GNP) in € billions
1980	50.0
1981	37.4
1982	42.3
1983	44.1
1984	45.3
1985	46.9
1986	45.8
1987	51.6
1988	52.4
1989	56.2
1990	60.6

i. Calculate the four year moving average. [7 $\frac{1}{2}$ marks]

ii. Given that the smoothing constant is 0.5, apply the technique of exponential smoothing on the schedule of GNP figures above. [11 marks]

iii. Plot the four year moving average and the exponentially smoothed data on the same graph, and comment on the trend of the GNP time series. [6$\frac{1}{2}$ marks]

[25 MARKS]

QUESTION 4

a) Briefly explain the following national income accounting concepts:

i. Private Saving [4 marks]

ii. Government Saving [4 marks]

iii. National Saving [2 marks]

b) Given the following items in the Balance of Payments (BOPs) schedule for Eldorado Republic:

	E billions
Eldorado visible exports	100
Net Transfers	+80
Net Factor Income	15
Eldorado invisible imports	115
Balancing item	8
Eldorado visible imports	67
World bank loan to Eldorado	24
Contributions of Eldorado to the African Development Bank	76
Eldorado invisible exports	210

Calculate:

i) The Visible Balance [3 marks]

ii) The Balance on Current Account [4 marks]

iii) The Balance of Payments (BOPs) position [6 marks]

iv) The Balance for Official Financing [2 marks]

[25 MARKS]

QUESTION 5

a) Study the following table and attempt the questions that follow:

sector	Intermediate demand-factory	Intermediate demand-farm	Final Demand-Consumption	Final Demand-Government	Final demand - Exports	Total
Intermediate inputs- factory	18	18	40	14	30	120
Intermediate inputs- farm	20	37	43	7	18	125
Households	56	52	16	9	27	160
Government	6	7	20	22	0	55
Imports	20	11	41	3	5	80
Total	120	125	160	55	80	

Calculate:

i. The technical coefficients matrix [4 marks]

ii. The output multipliers for the two sectors of the economy using the matrix approach of the input-output model. [13 marks]

iii. The direct and indirect effect on Gross Domestic Product (GDP) of a $1 increase in factory final demand. [8 marks]

[25 MARKS]

QUESTION 6

a) The two schedules below show farm prices (per ton) and quantities produced (in billions of tons) of three kinds of grains produced in the United States of America (USA) during the years 1987, 1988 and 1989.

Schedule A: price per tonne

	1987	1988	1989
Corn	1.94	2.55	2.35
Wheat	2.57	3.72	3.72
Oats	1.56	2.61	1.49

Schedule B: Quantity of tonnes (in billions)

	1987	1988	1989
Corn	7.1	4.9	7.5
Wheat	2.1	1.8	2.0
Oats	0.4	0.2	0.4

Use the above schedules to calculate:

i. The Laspeyres Index [4 marks]
ii. The Paasche Index [4 marks]
iii. The Fisher Index [2 marks]

b) Explain the merits of the Fisher Index that make it to be preferred to the Laspeyres Index by national income accountants in adjusting nominal national output figures. [7 marks]

c) Briefly discuss the feasibility of ecological national income accounting in relation to an emerging economy such as Zimbabwe. [8 marks]

[25 MARKS]