UGANDA MARTYRS UNIVERSITY

UNIVERSITY EXAMINATIONS

FACULTY OF BUSINESS ADMINISTRATION AND MANAGEMENT

DEPARTMENT OF ECONOMICS

YEAR THREE SEMESTER TWO 2022/2023 FINAL ASSESMENT

COURSE CODE : STA 3203

COURSE UNIT : NATIONAL ACCOUNTS AND INCOME ANALYSIS

PROGRAM : BACHELOR OF SCIENCE IN ECONOMICS AND STATISTICS

DATE: MONDAY 22/05/23

TIME: 9.30 – 12.30 PM

DURATION: 3 HOURS

Instructions:

1. This examination consists of **SIX** questions.
2. Attempt any **FOUR** questions. Each question caries 25 marks.
3. Do not write anything on the questions paper.
4. Carefully read through ALL the questions before attempting.
5. No **names** should be written anywhere on the examination booklet.
6. Ensure your work is **clear** and **readable**. Untidy work shall be penalized.
7. Any type of examination Malpractice will lead to automatic disqualification.
8. Ensure that your **Registration number** is indicated on all pages of the examination answer booklet.
9. Remember to indicate the question numbers you have attempted.

QUESTION ONE

(a) What is meant by national accounting? **(1 mark)**

(b) Explain the objectives of compiling national accounts. **(6 marks)**

(c) Define each of the following terms as used in national accounts. **(8 marks)**

(i) Gross output

(ii) Purchasers' price

(iii) Intermediate consumption

(iv) Value added

(d) Define and give two examples on each of the following terms. **(6 marks)**

(i) Statistical unit

(ii) Collection unit

(iii) Reporting unit

(e) State and explain the sections of the following tables. **(4 marks)**

(i) Use tables

(ii) Supply tables

QUESTION TWO

(a) Give the numerical measure or formulae of the following as defined in the national accounts framework.

(i) Gross domestic product (income approach at current prices) **(2 marks)**

(ii) GDP Deflator **(2 marks)**

(iii) Net Product/Income/ Value added **(2 marks)**

(iv) Aggregate at factor cost **(2 marks)**

(v) National disposable income **(2 marks)**

(b) Given the Gross Output = 1185; Final Output = 1110; Intermediate imports = 110; Net Foreign Factor Income = -13; Net Indirect Taxes (NIT) = 17; Intermediate Inputs = 185; Final expenditure = 1115; Total imports = 115; Depreciation = 114; Wages/ Salaries = 154; other factor incomes (excluding Depreciation + NIT) = 125. Compute;

(i) GDP at market price

(ii) GNP at market price

(iii) GDP at factor cost

(iv) GNP at factor cost

(v) NDP at market price

(vi) NNP at market price

(vii) NDP at factor cost

(15 marks)

QUESTION THREE

(a) Define an institutional unit and give three examples. **(4 marks)**

(b) State and briefly explain the categories of the integrated economic accounts. **(6 marks)**

(c) Provide a T-type general layout of the production account of the economy using expenditure approach. **(3 marks)**

(d) Given below are the transactions on the economic activities of a certain country. Prepare the production accounts for the sectors. **(12 marks)**

Imported inputs used by households	: 563
Intermediate inputs produced/ sold by households to corporations	: 287
Consumer goods produced/ consumed by households	: 6007
Subsidies advanced by government to subsistence farmers	: 500
Depreciation by households	: 176
Intermediate inputs produced/ sold by corporations to corporations	: 98
Imported inputs used by corporations	: 129
Intermediate inputs produced/sold by corporations to government	: 630
Imported inputs used by government	: 1000
Depreciation by government	: 2156
Depreciation by corporations	: 1005
Investment in goods produced/ sold by corporations to	
- Corporations	: 100
- Government	: 1298
- Households	: 127
Consumer goods produced/ sold by corporations to households	: 5129
Subsidies advanced by government to corporations	: 700
Indirect taxes paid by corporations	: 4239
Public expenditure into services provided by government	: 10452

QUESTION FOUR

(a) An economy has n sectors whose outputs are $X_1, X_2, X_3, ..., X_n$ respectively. Part of the sector's output is used as input and the rest as final demand or consumption. Derive the formula for total output $X = (I - A)^{-1} F$, where F is final demand, I is an identity matrix, A is the input coefficient matrix and X is the variable vector matrix. **(10 marks)**

(b) The industry by industry flow coefficient matrix for a three sector economy is shown in matrix A.

$$A = \begin{pmatrix} 0.16 & 0.40 & 0.20 \\ 0.36 & 0.20 & 0.16 \\ 0.24 & 0.15 & 0.04 \end{pmatrix}$$

(i) Compute the Leontief inverse matrix.

(ii) If the final demand values for a particular year are 8, 3 and 6 units, compute the gross output values for the three sectors. **(15 marks)**

QUESTION FIVE

(a) Briefly describe the following approaches to estimating Gross Domestic Product

(i) Expenditure approach **(3 marks)**

(ii) Production/ value added approach **(3 marks)**

(iii) Income approach **(3 marks)**

(b) Data from the economic survey on three food processing industries in the country are reproduced below.

	2010			**2014**		
Items	Production in kg	Price /kg	Trade and transport /kg	Production in kg	Price /kg	Trade and transport /kg
Biscuits	361	2.8	0.60	488	4.2	1.20
Bread	1284	1.7	0.01	1621	2.3	0.07
Flour	156	2.2	0.26	161	3.0	0.45
Expenditure on inputs (in dollars)						
Imported inputs	40.5			55.7		
Wages and salaries	6812			10046		
Wheat	80.6			132.6		
Sugar	75.4			130.2		
Salt	13.0			24		

Calculate the:

(i) Gross value of production of each of the processing industries in 2010 and 2014. **(6 marks)**

(ii) Intermediate consumption of the economy in 2010 and 2014. **(4 marks)**

(iii) Value added at current market price of the economy in 2010 and 2014. **(4 marks)**

(iv) Calculate the change in final demand in 2014 from 2010. **(2 marks)**

QUESTION SIX

The following information has been provided about the economics activities of the economy.

Agriculture (A) Value of intermediate output produced- 783 billion, which is used as below: Agriculture (17%); Manufacturing (33%); Fishing and aquaculture (15%); Services (10%) and Construction (25%) Value of final output produced – 2315 billion, which is distributed as below: Household consumption (68%); government consumption (22%) and exports (10%)
Fishing and aquaculture (FS) Value of intermediate output produced- 342 billion, which is used as below: Aquaculture (25%); Manufacturing (65%) and other industry (10%) Value of final output produced – 400 billion, which is distributed as below: Household consumption (70%) and exports (30%)
Forestry and Logging (FR) Value of intermediate output produced- 658 billion, which is entirely used by the manufacturing sector. Value of final output produced – 311 billion, which is all exported
Mining and quarrying (MNG) Value of intermediate output produced- 1064 billion, which is used as below: Fishing (17%); Manufacturing (53%) and Quarrying (30%) Value of final output produced – 760 billion, which is used in the construction sector (75%) and for export (25%)
Manufacturing (MFG) Value of intermediate output produced- 2064 billion, which is used as below: Agriculture (10%); Fishing (15%); Aquaculture (21%); Logging (15%); Manufacturing (33%); other industry (6%) Value of final output produced – 2064billion, which is distributed as below: Household consumption (42%); government final consumption (17%); NPISH final consumption (1%); fixed capital formation (23%); Inventories (4%) and exports (13%)
Construction (CTR) Value of intermediate output produced – 550 billion, which is all reused in the same sector. Value of final output produced – 740 billion which is all regarded as fixed capital formation
Other industry (OI) Value of intermediate output produced- 640 billion, which is used as below: Forestry and logging (24%); Mining and quarrying (5%); Manufacturing (35%); Other industry (16%) and Services (20%) Value of final output produced – 1850 billion, which is distributed as below: Household consumption (44%); government final consumption (22%); fixed capital formation (32%) and exports (2%)
Services (S) Value of intermediate output produced- 1560 billion, which is used as below: Agriculture (21%); Fishing (16%); Manufacturing (14%) and Services (49%) Value of final output produced – 3645 billion, which is distributed as below: Household consumption (34%); NPISH final consumption (22%) and exports (44%)

The table below shows the data on imports and primary factor costs

	A	FR	FS	MFG	MNG	CTR	OI	S	Economy
Intermediate imports	1480	100	30	303	0	440	989	1056	
Imported consumer goods									2200
Imported machinery									2002
Wages and salaries	317	87	83	176	723	128	241	2517	
Rent	298	70	11	324	142	0	417	223	
Interest	87	130	33	198	416	96	328	41	
Profits	248	118	-792	302	192	76	255	398	

(i) Use the information above to construct a simple Input – Output table. **(15 marks)**

(ii) Use the table to estimate GDP by economic activity by expenditure approach, value added and income approach. **(10 marks)**

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