



Strathmore
UNIVERSITY

SCHOOL OF COMPUTING & ENGINEERING SCIENCES

**BACHELOR OF SCIENCE IN INFORMATICS AND COMPUTER SCIENCE
BACHELOR OF SCIENCE IN COMPUTER NETWORKS AND CYBER SECURITY**

**END OF SEMESTER EXAMINATION
ICS 1105 & CNS 1105: FUNDAMENTALS OF ECONOMICS
OCTOBER 2023 EXAMS**

DATE: Thursday, 12th October 2023

Time: 10:30-12:30

INSTRUCTIONS:

1. Answer **Question ONE (Compulsory)** and any other **TWO** questions.

Question One

[30 Marks]

- (a) Highlight **TWO** ways by which government can improve market outcome **[2marks]**
 (b) You are given two functions; the demand function and the supply function as follows:
 Demand function, $Q_d = 710 - 53.2p$
 Supply function, $Q_s = 305.2 + 48p$

Required:

- i) Determine the equilibrium market price and quantity **[4 marks]**
 (c) Why are cost curves steeper in the short run and flatter in the long run? **[3 marks]**
 (d) The table below shows the operations information for Software Company in Kenya

Labour	0	1	2	3	4
Total Product(TP)	0	10	25	38	48

Consider the following additional information;

Selling price per Unit = \$ 5

Fixed cost = \$ 2

Variable Cost = \$ 3

Required:

Create additional columns in the table and calculate the following

- i) Marginal Product (1/2 a mark for each of 4 values) **[2.5 marks]**
 ii) Total Revenue (1/2 a mark for each of 4 values) **[2.5 marks]**
 iii) Total Cost (1 mark for each of 4 values) **[5 marks]**

- (e) One of the sectors in the Kenyan economy is the dairy sector. The sector is involved in the production and processing of raw milk into processed milk and milk products. The following statistics present a summary of the processing of milk in a particular year

Item	Value(KES)
Milk form farmers	50,000
Processed milk form factories	80,000
Milk at wholesaler	120,000
Milk at retailers	160,000

Required;

- i) Use the information to calculate Gross Domestic Product (GDP) using value added approach for this economy [5 marks]
 ii) Highlight **TWO** uses of GDP statistics [2 marks]
 (f) Compare and contrast competitive market and monopolistic market structure [4 marks]

Question Two [20 Marks]

- (a) Differentiate between short run and long run period as used in economics [3 marks]
 (b) Explain under what conditions a firm will shut down [4 marks]
 (c) Using a diagram (s) demonstrate how a firm in competitive market experiences
 i) Supernormal Profits [7 marks]
 ii) Losses [6 marks]

Question Three [20 Marks]

- (a) Differentiate between structural unemployment and hidden unemployment [4 marks]
 (b) With the help of a diagram, elaborate the concept of “Business Cycles” [10 marks]
 (c) Discuss **THREE** Causes of unemployment in your country [6 marks]

Question Four [20 Marks]

- (a) The central bank of any country controls the monetary system and the money supply. Write short descriptions on the following aspects of monetary systems,
 i) Money supply M1 [2 marks]
 ii) Open Market Operations [2 marks]
 (b) Explain the concept of price discrimination as practiced by a monopoly firm? [4 marks]

(c) The table below represent labor market dynamics for the East African Community in the year 2021.

Characteristics	Number (in thousands) of persons
Population	1000
Population 18 or older	750
Persons employed fulltime or part time	500
Persons unemployed and actively seeking work	190
Persons who have quit work due to lack of success	170
Part-time workers seeking full time jobs	200

Calculate;

- i) The number of people in the labor force [2 marks]
- ii) The number of people employed [2 marks]
- iii) The number of people unemployed [2 marks]
- iv) The unemployment rate and interpret it [3 marks]
- v) The labor force participation rate and interpret it [3 marks]

Question Five {20 Marks}

- (a) Why is depreciation usually excluded from national income calculations [2 marks]
- (b) The expenditures by economic agents in an economy are as provided below

Expenditure	Total (Billions of Dollars)
Consumption	11,119
Investment	2,059
Government Purchases	3064
Net Exports	-567

Required;

- i) Calculate GDP by expenditure approach [4marks]
- ii) List any **FOUR** Problems with measuring National Income [4 marks]
- (c) Explain the concept of elasticity of supply [3 marks]
- (d) Consider the changes in quantities of commodities consumed changes from year 2021 to year 2022 as shown below

Year	Price	Quantity
2021	30	300
2022	15	600

Required

- i) Calculate the Price elasticity of demand [5 marks]
- ii) Interpret the value in (i) above [2 marks]