



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMAMINATIONS  
2022/2023 ACADEMIC YEAR  
THIRD YEAR FIRST SEMESTER**

**BACHELOR OF SCIENCE IN ECONOMICS/FINANCIAL  
ECONOMICS/STATISTICS AND ECONOMICS**

**COURSE CODE: ECO 3106-1  
COURSE TITLE: ECONOMICS OF LABOUR**

**DATE: 7<sup>TH</sup> DECEMBER, 2022**

**TIME: 1430-1630**

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**INSTRUCTIONS TO CANDIDATES**

**Answer Question ONE and any other TWO questions**

### QUESTION ONE

(a). Explain the concept production function. **(3marks)**

(b). Differentiate between economy of scale and economy of scope.

**(4marks)**

(c). The Economic Planning Department at International chemicals, Inc. has used regression analysis to estimate the firm's production function as:

$$\ln Q = 3 + 0.25 \ln K + 0.75 \ln L$$

where "ln" denotes natural logarithm of the variable.

(i). If the capital stock is fixed at 16, the price of labour is Kshs 200 per unit, and the price of the firm's only product, sulphuric acid, is Kshs 10 per unit, determine the rate of labour input that will Maximize profit. **(4marks)**

(ii). If both the capital and labour units are variable the price of labour in kshs 200 per unit and the price of capital is Kshs 100 per unit, determine the input rates for both capital and labour that will Maximize profit **(4marks)**

(e). Explain the following concepts as used in labour economics. **(5marks).**

(i). Voluntary unemployment

(ii). Sticky wages.

(iii). Involuntary unemployment.

(iv). Minimum wages.

(v). Allocative efficiency

### QUESTION TWO

(a). A team representing of all firms in the automatic widget industry is currently negotiating a new three- year contract with the leaders of the united widget workers labour union. The industry demand function for labour (i.e. the marginal revenue product of labour) is

$$MRP_L = 20 - 2L$$

The marginal revenue function associated the demand curve is  $MR = 20 - 4L$  and the labour supply and marginal expenditure on input functions facing the industry are

$$W = 5 + 2L$$

$$ME = 5 + 4L$$

Where L is the number of workers in thousands and W is the hourly wage rate

(i). If the management team can dominate the negotiations and dictate the terms of agreement,

Calculate wage rate and level of employment determination.

**(4marks)**

(ii). If the labour union team can dominate the negotiations and dictate the terms of agreement, find the wage and employment **(4markks)**

(b). Explain modern theory of wages. Use examples for illustrations. **(4marks)**

(c). Explain the main objectives of trade unions in less developed economies.

**(3marks)**

### **QUESTION THREE**

- (a). (i). Differentiate between nominal wages and real wages. **(3marks)**  
(ii). Explain factors that determine real wages. **(4marks)**
- (b). Explain the following theories of wages. **(5marks)**  
(i). Subsistence  
(ii). The residual demand.  
(iii). The wage fund.
- (c). Discuss the case for the government involvement in labour markets. **(3marks)**

### **QUESTION FOUR**

- (a). Critically explain the argument that perfect competition is the most desirable market structure. **(4mks)**
- (b). Discuss the advantages and disadvantages of internal labour markets. **(4marks)**
- (c). If the labor demand and labor supply intersect above the negotiated wage rate. Explain the implications for the aggregate supply (AS) curve. **(4marks)**
- (d). Explain the cost of unemployment to the economy. **(3marks)**

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# MAASAI MARA UNIVERSITY

## UNIVERSITY EXAMINATIONS

### FOR DEGREE OF BACHELOR OF SCIENCE IN FINANCIAL ECONOMICS

#### THIRD YEAR FIRST YEAR

#### ECO 3111 THEORY OF FINANCE

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**INSTRUCTIONS: ANSWER QUESTION ONE AND ANYOTHER THREE QUESTIONS.**

#### QUESTION ONE

- (a). Use examples and illustrations explain eight principals of finance. (8mks)
- (b). Make-Em happy Corp. (MEH) has a different security for sale. You pay MEH Kshs 1000 today and the company will give you back Kshs 100 at the end of the first year, sh 200 at the end of year 2..... Kshs 1000 at the end of year 10.
- (i). Calculate the internal rate of returns of this investment. (5mks)
- (ii). Show an amortization table for the investment. (5mks)
- (c). Explain the following concepts as used in theory of finance. (7mks)
- (i). Net present value
  - (ii). Effective annual interest rate
  - (iii). Capital market line (CML)
  - (iv). Stock market line. (SML)
  - (v). Risk-adjusted discount rate. (RADR)
  - (vi). Weighted average cost of capital. (WACC)
  - (vii). Marginal rate of time preference.

#### QUESTION TWO

- (a). Explain how a financial intermediary reduces the cost of contracting and information processing. (3mks)
- (b). Your firm is considering two projects with the following cash flows.

Year	project A	project B
0	-500	-500
1	167	200
2	180	250
3	160	170
4	100	25
5	100	30

- (i). If the appropriate discount rate is 12% rank the two projects. (2mks)
- (ii). Which project is preferred if you rank by IRR? (2mks)

(iii). Calculate the crossover rate and discount rate in which the NPVs of both projects are equal.

(3mks)

(iv). Should you use NPV or IRP to choose between the two projects? Give brief discussion. 4mks

### QUESTION THREE

(a). The XYZ company limited has the following information.

Market value of debt Kshs 2,500,000

Market value of equity Kshs 1,000,000

Cost of debt,  $r_D$  5%

Tax rate,  $T_c$  25%

WACC 10%

Calculate the cost of equity  $r_E$ .

(5mks)

(b). A boudy corp's stock price is currently Kshs 22 per share. The company has paid a dividend of ksh. 0.55 per share and shareholders anticipate that this dividends will grow in the future at rate of 6% per year. Use the Gordon model to calculate the company's cost of equity  $r_E$ .

(4mks)

(c). Explain the risk associated with the mortgage origination process.

(3mks)

(d). Explain the key features of an option market.

(3mks)

### QUESTION FOUR

(a). Explain the difference between a spot exchange rate and a forward exchange rate. (3mks)

(b). The following are the spot exchange rates reported on July 24, 2018:

<u>Japanese yen</u>	<u>British pound</u>	<u>Canadian dollar</u>
US \$ 0.008864	1.477	0.6596

The exchange rate indicate the number of US dollar necessary to purchase one unit of the foreign currency

(i). From the perspective of a US investor, explain whether the preceding foreign exchange rates are director indirect. (2mks)

(ii). How much of each of the foreign currencies is needed to buy one US dollar? (3mks)

(iii). Calculate the theoretical cross rates. (3mks)

(c). The assumptions underlying the Miller-Modigliani (MM) dividend irrelevance hypothesis are unrealistic. Discuss with illustrations and examples. (3mks).

### QUESTION FIVE

(a). Explain the difference between the primary and the secondary markets (3mks)

(b). Use the Black-Scholes model to price the following:

(i). A call option on a stock whose current price is  $s=50$ , with exercise price  $x=50$ ,  $T=0.5$ ,  $r=10\%$ , and  $\delta=25\%$ . (4mks)

(ii). A put option with same parameters. (2mks)

(c). Explain the main source of capital and their limitations.

(3mks)