FACULTY	AGRICULTURE, ENGINEERING AND NATURAL SCIENCES		
SCHOOL	AGRICULTURE AND FISHERIES SCIENCES S		
DEPARTMENT	ANIMAL PRODUCTION, AGRIBUSINESS & ECONOMICS		
SUBJECT	INTERMEDIATE MICROECONOMICS		
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DURATION	**3 HOURS**	**MARKS**	**100**

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER

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This question paper consists of FOUR (4) pages including this front page

Instructions

- Answer all questions
- Please write legibly and number your questions clearly
- This examination requires the use of a calculator
- Show your calculations to two decimal places

QUESTION 1 (20 Marks)

Briefly define the following concepts:

i)	Reservation Price	(2)
ii)	Revealed preferences	(2)
iii)	Asymmetric information	(3)
iv)	Marginal external benefit	(2)
v)	Subsidy	(2)
vi)	Iso-cost line	(2)
vii)	First degree price discrimination	(3)
viii)	Coase theorem	(2)
ix)	Ordinal utility	(2)

QUESTION 2 (20 Marks)

The output of Mahangu flour can be modelled as a Cobb-Douglas production function of the following form: $Q = 10L^{0.75}K^{0.25}$, where Q = output in hundred bags (25 kg) per month, L = Labour input, and K = capital input.

a) Calculate the marginal product of labour and marginal product of capital [5]
b) Find the average products of labour and capital. [5]
c) If K = 50 and L = 80, how many bags of Mahangu will be produced in this month? [5]
d) Is the production function linearly homogenous? Explain how you know. [2]
e) Examine the marginal product and average product functions you calculated above. Are these homogenous equations? If so, of what degree? What is the economic interpretation of your answer? [3]

QUESTION 3 (20 Marks)

a) Suppose you are a farmer that sells both food and non-food items at your farm. The elasticity of demand for food products is 2.5 and for non-food is 1.5. Derive the profit maximizing mark-up for each product category. You must carefully justify your answer. (5)

b) For students on "Field attachment" programme a university may have monopsony power. Suppose UNAM's yearly demand for student labour is given by the labour demand curve: $w = 22{,}000 - 2L$, where w is the yearly payment to each student worker and L is the number of students hired. Suppose the supply of student labour is given by $w = 100 + 40L$.

i) If the university behaves as a monopsonist, how many students will it hire? (4)

ii) What wage will pay them? (2)

iii) Illustrate your answer in parts i and ii (above) graphically (4)

c) State the characteristics of monopolistic competition and explain why equilibrium profits in a monopolistic competition are driven to zero. Illustrate graphically. (5)

QUESTION 4 (20 Marks)

Suppose a poultry feed making business gets a business start-up loan of N$200,000. For simplicity suppose they only have to choose among two inputs: capital and labour. Denote the price of capital as "r" and the price of labour as "w".

a. For each of the following production functions provide a graphical representation of the input mix that maximizes output for the N$200,000 expenditure using the iso-quant and iso-cost line.

i) Q = K * L (3)

ii) Q = min[K, L] (3)

iii) Q = 2K + L (3)

b. What are the returns to scale of each production function in part A above? You must justify your answer. (4)

c. The Kapana (roasted beef cuts) market in Katutura, Windhoek, is perfectly competitive with the quarterly demand and supply equations: $P = 120 - 3Q_d$ and $P = Q_s$. The city decides to levy a per unit tax on the suppliers of these Kapana. Mayor Kazapua calls you in as a consultant to determine the level at which the tax should be set if the objective is to maximize tax receipts. Determine the tax per kg and the amount of tax collected for each quarter. (7)

QUESTION 5 (20 Marks)

1. Suppose you are the manager of a firm producing sausages according to the cost function $C(Q) = 0.5Q^2 + 500$. Further, assume that the output market for sausage is competitive and the market price of sausage is N$25 per kilogram.

a. How many sausage packages (of 1 kg) should the firm make to maximize profits? (3)

b. What is the level of profits? (3)

c. What is the minimum price at which the firm will produce sausage (the shut-down point)? (3)

d. Provide a graphical representation of the output choice,

i) Profits (3)

ii) Marginal cost curves (3)

2. Consider an individual with utility function U(x), where x is a dollar amount. The individual is considering a job that pays N$25,000 per month with certainty and a risky job that pays N$0 a month with probability of 30% and N$40,000 with probability of 70%.

a) What is the expected value of the risky job? (2)

b) Write a mathematical expression for the expected utility of the risky job. Illustrate graphically. (3)

END