



STRATHMORE BUSINESS SCHOOL
MASTER OF MANAGEMENT IN AGRIBUSINESS

MMA 8107: ECONOMICS OF AGRIBUSINESS

Date: 28/01/2025

Time: 3 Hours

Instructions: Attempt **QUESTION ONE** and any **TWO** other questions

QUESTION 1 (COMPULSORY) (30 Marks)

- a) Show graphically how a consumer can maximize his or her satisfaction, given a budget constraint and explain the rationale for the optimization solution. **(15 Marks)**
- b) Given what we know to date about the stagnation of both agricultural technology use and agricultural productivity in Africa, what key strategies might be appropriate to overcome agricultural stagnation in Africa? **(15 Marks)**

QUESTION TWO (15 marks)

Discuss ways the transforming Africa's Food Systems from the Demand Side should be implemented to overcome the current challenges.

QUESTION THREE (15 Marks)

You are provided the following production data for maize and the amount of irrigation water used in the production.

Irrigation water	Maize yield per acre	Marginal input cost
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(acre-inch)	(25kg bag)	(MIC)
10	104.0	
12	116.8	3.00
14	128.6	3.00
16	138.2	3.00
18	144.8	3.00
20	149.0	3.00
22	151.8	3.00
24	153.6	3.00
26	154.2	3.00

Given prices for irrigation water at \$3.00/acre-inch and the price of 25kg bag of maize is \$2.50.

- a) Derive the marginal physical product of this farm **(5 marks)**
- b) Determining the Profit-Maximizing Irrigation Level for maize Production **(5 Marks)**
- c) Determine the amount of maize that maximize profit and the optimal profit **(5 Marks)**

QUESTION 4 (15 Marks)

Discuss the potential government interventions based on sound economic theory that can be used to address the typical farm problems.