



**2<sup>nd</sup> SEMESTER 2006/2007**

**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

**PROGRAMME: DIPLOMA IN AGRICULTURE YR 3  
DIPLOMA IN AGRICULTURAL EDUCATION YR 3  
DIPLOMA IN HOME ECONOMICS YR 3  
DIPLOMA IN HOME ECONOMICS EDUCATION YR 3**

**COURSE CODE: AEM 302**

**TITLE OF PAPER: FARM MANAGEMENT AND ACCOUNTS**

**TIME ALLOWED: TWO (2) HOURS**

**INSTRUCTIONS: Candidates are required to answer QUESTION 1 and any other TWO of the THREE remaining questions.**

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**QUESTION 1**

Given the production function of maize as:

$$Q = 100 + 10x - 0.2x^2$$

Where: Q = quantity of maize produced; and x = quantity of fertilizer used,

- a) Determine the physical maximum quantity of fertilizer to use and the physical maximum quantity of maize obtainable. **[10 marks]**
- b) If price of Q (or  $p_q$ ) is E100, and the price of X (or  $p_x$ ) is E20, determine the optimum quantity of maize to be produced. **[10 marks]**
- c) If fertilizer (or x) is the only input used, determine the profit that will be obtained from maize production. **[5 marks]**
- d) Explain why planning is an important element in farm management. **[5 marks]**
- e) What is the difference between a cashflow budget and an enterprise budget? **[10 marks]**

**QUESTION 2**

- a) Using your knowledge of a balance sheet and ratio analysis, complete the following abbreviated balance sheet.

<u>Assets</u>	(E)	<u>Liabilities</u>	(E)
Tot. current assets	40, 000	Tot. current liabilities	_____
Tot. intermediate assets	_____	Tot. intermediate liabilities	20, 000
Tot. fixed assets	_____	Tot. long-term liabilities	_____
		Tot. liabilities	_____
		Net worth	_____
Tot. assets	_____	Tot. liabilities and Net worth	400, 000

Assume the following:

Current Ratio = 2:1

Net Capital Ratio = 4:1

Working Capital Ratio = 3:1

**[20 marks]**

- b) What is the difference between liquidity and solvency? Can a business be solvent but not liquid? Justify your answer. **[10 marks]**

**QUESTION 3**

- a) Outline the criteria you would adopt in evaluating a prospective borrower if you were appointed a Credit Supervisor in any lending institution in your country. **[25 marks]**
- b) Distinguish between agricultural capital and credit. **[5 marks]**

**QUESTION 4**

Mr Sibeko plans to buy a farm in which he wants to operate a 500 broiler production unit. The previous owner of the farm used to run a similar broiler production project, meaning Mr Sibeko no longer needs to invest in infrastructure and equipment. The costs that he is likely to incur, though, in his project are as follows:

Day-old chicks	-	E1, 500
Broiler starter	-	E1, 400
Broiler finisher	-	E2, 300
Insurance	-	E 300
Saw dust	-	E 140
Vaccine	-	E 60
Disinfectant	-	E 60
Depreciation on equipment	-	E 100
Vitamins	-	E 65
Electricity	-	E 200
Water	-	E 150
Casual labour	-	E 600

The chickens will be sold after 6 weeks. Based on the current mortality rate in broiler production, Mr Sibeko expects to sell **only 475 broilers** at the end of the 6 weeks with each broiler selling at **E30.00**

- a) Calculate the Gross margin for the broiler enterprise in the first 6 weeks. **[15 marks]**
- b) Mr Sibeko has submitted a business proposal to the Swazi Bank for a loan that he will use to buy the farm and then kick start his broiler production project. The Swazi Bank has agreed to advance him a loan of E10, 000 with an annual interest rate of 12%. If the loan is to be repaid over a period of 4 years with an equal principal payment in each year, show Mr Sibeko's loan repayment plan assuming Swazi Bank will charge interest on unpaid balances over the years. **[15 marks]**