



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

**UNIVERSITY OF SWAZILAND**

**SUPPLEMENTARY 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.**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE CHIEF INVIGILATOR.**

**QUESTION 1**

Farmer Mr Zwane applies different levels of fertilizer to his maize field and achieves corresponding yields, as shown below. Assume a unit cost of fertilizer is E24 per kg and a unit price of maize is E4 per kg.

Fertilizer (kg):	0	1	2	3	4	5	6	7	8	9	10
Maize yield (kg):	0	24	60	88	108	124	136	144	148	144	136

- (a) How much of maize should Mr Zwane produce in order to maximize his profit? Approach this problem from the marginal revenue and marginal cost concepts. **[15 Marks]**
- (b) Mr Zwane insists to continue applying fertilizer till an output of 148 units of maize is achieved even though he is following the profit-maximising goal. From the point of view of "profit-maximizing input level", would you encourage Mr Zwane to stick to his decision? If not, why? **[10 Marks]**
- (c) Why would the average fixed cost of any firm decrease as the output increases? **[5 Marks]**
- (d) Explain why planning is an important element in farm management. **[5 Marks]**
- (e) Why is a cashflow budget considered a useful management tool? **[5 Marks]**

**QUESTION 2**

Presented below is Mr Simelane's balance sheet as at 31<sup>st</sup> December 2006.

<u>Assets</u>	(E)	<u>Liabilities</u>	(E)
Tot. current assets	40, 000	Tot. current liabilities	20, 000
Tot. intermediate assets	80, 000	Tot. intermediate liabilities	20, 000
Tot. fixed assets	280, 000	Tot. long-term liabilities	60, 000
		Tot. liabilities	100, 000
		Net worth	300, 000
Tot. assets	400, 000	Tot. liabilities and net worth	400, 000

- (a) Using your knowledge of a balance sheet, calculate Mr Simelane's:
- Net Capital Ratio
  - Debt/equity Ratio
  - Working Capital Ratio
- [9 Marks]**

- (b) What effects would the following scenarios have on Mr Simelane's net worth, assets and/or liabilities?
- E5, 000 in cash is used to purchase a new disc harrow.
  - E5, 000 is used to pay principal on a loan.
  - Borrowing E5, 000 to purchase a planter of the same value.
- [9 Marks]**
- (c) What is the difference between liquidity and solvency? Can a business be solvent but not liquid? Justify your answer. **[8 Marks]**
- (d) Discuss the difference between the costs that a farmer would incur when using owned capital and borrowed capital. **[4 Marks]**

### QUESTION 3

- (a) Mrs Dlamini became furious with the bank manager of a newly restructured agricultural Swazi bank when the latter asked her to produce farm records she has been keeping on her enterprises before her application for a loan could be considered. Mrs Dlamini's reason for being annoyed was that she had indicated in her application form that she had a house to use as surety and that alone should be enough and there was no need for the farm records. I personally believe Mrs Dlamini was right. Do you agree or disagree with me? Elaborate with sufficient reasons for the choice of your answer. **[15 Marks]**
- (b) Calculate the monthly installment to be paid for a combine harvester bought through a loan of E150, 000 with an interest rate of 13% per annum and a loan repayment period of 5 years. **[6 Marks]**
- (c) Calculate the annual percentage rate using the information give in (b), above. **[6 Marks]**
- (d) Distinguish between agricultural capital and credit. **[3 Marks]**

**QUESTION 4**

Mr Thusi wants to buy a farm in Matsamo where he plans to produce green mealies. He has asked you to prepare an enterprise budget for his project. The costs that he is likely to incur on 1 ha are as follows:

Ploughing	-	E 175.00
Discing and planting	-	E 140.00
Maize seed	-	E 410.00
Basal fertilizer	-	E 780.00
Top dressing fertilizer	-	E 235.00
Property tax	-	E 100.00
Cutworm bait	-	E 50.00
Stalkborer control	-	E 50.00
Machinery depreciation	-	E 35.00
Casual labour	-	E 300.00
Crop insurance	-	E 250.00

If the possible maize yield in Matsamo is 34, 000 maize cobs per hectare and the current producer price is E1.20 per maize cob, calculate the following:

- (a) Gross margin;
- (b) Profit;
- (c) Break-even price; and
- (d) Break-even yield.
- (e) Is the enterprise profitable? Justify your answer.

**[30 Marks]**