



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

THIRD YEAR FIRST SEMISTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

AGB 310: FARM BUSINESS MANAGEMENT

DATE: 24/8/2022

TIME: 8.30-10.30 AM

INSTRUCTIONS: Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- a) Explain the following terms as used in farm management
 - i. Law of diminishing returns (1 mark)
 - ii. Farm budgeting (1 mark)
- b) Explain four stages of the farm planning cycle (4 marks)
- c) Explain five roles of information management in farm management (5 marks)
- d) Describe five types of farm records that need to be maintained by a farmer (5 marks)
- e) Describe six components that constitute the farm business decision-making environment (6 marks)
- f) Describe four indicators used to measure financial performance of a farm business, giving examples (8 marks)

QUESTION TWO (20 MARKS)

- a) Describe why a farm manager should apply the principle of least cost combination in farm management, using necessary illustrations (10 marks)

- b) The data below is for the Amani farm business for the year 2021.

Livestock	200,000
Grain Stock	250,000
Stock Mortgage	50,000
Bank Loans	550,000
Machinery	50,000
Cash	50,000
Wages	125,000
Building	400,000
Taxes Payable	2,500
Livestock Feeds	20,000
Overdraft	100,000
Loan Interests	4,500
Land	400,000

Use the above data to:

- i. Prepare the balance sheet (6 marks)
- ii. Calculate the net worth of the farm (2 marks)
- iii. Evaluate equity of the farm (2 marks)

QUESTION THREE (20 MARKS)

- a) Describe the steps followed in collecting farm data for farm business analysis (10 marks)
- b) The data below is for a Baraka dairy farm.

Output on dairy production – Sales	Amount
Cows	48,000
Heifers	24,000
Bull calves	10,200
Milk (litres)	10,000
Manure (tons)	100
Home consumption	
Bull	24,000
Milk (litres)	600
Purchase of animals – 1 heifer	36,000
Costs	
Maize meal	55,500
Milk for calf feeding (litres)	1,700
Total miscellaneous costs	66,000
Super fertilizer for fodder	29,250
CAN fertilizer for fodder	45,000
Land costs	10,000
Depreciation on building and machinery	20,000
Insurance	12,000
Laborer	2 laborers
Prices	
Milk (KES)	30

Manure (KES)	1500/ton
Laborer	20,000

Evaluate the following showing all calculations and interpretations

- i. Variable costs (3 marks)
- ii. Gross margins (3 marks)
- iii. Profit of the enterprise (4 marks)

QUESTION FOUR (20 MARKS)

- a) Describe two tools that could help a farm manager in strategic planning of a farm, providing necessary examples and illustrations (10 marks)
- b) Suppose a farm manager seek advice on two viable agribusiness projects, Project A & B with the following cash flows:

Year (t)	Expected net cash flows (CF _t)	
	Project A	Project B
0 (investment)	(KES 100,000)	(KES 100,000)
1	50,000	10,000
2	40,000	30,000
3	30,000	40,000
4	10,000	60,000

- i. Using pay-back period and assuming 10% discount factor, advice the farm manager on which project to undertake and why (8 marks)
- ii. Explain two limitations of pay-back period technique of investment analysis (2 marks)

QUESTION FIVE (20 MARKS)

- a) With relevant examples, explain five techniques to assess farm enterprise risks. (10 marks)
- b) A farmer wishes to shift from soybeans to maize production. Maize production will require seed at KES 4,000/acre, fertilizer at KES 5,000/acre, agro-chemicals at KES 3,000/acre and labor at KES 6,000/acre. The expected yield for maize is 40bags/acre valued at KES 4,000/bag. Soybeans production requires seed at KES 4,000/acre, fertilizer at KES 5,000/acre, agro-chemicals KES 7,000/acre and labor at KES 5,000/acre. The expected yield for soybeans is 30bags/acre valued at KES 5,500/bag.
 - i. Evaluate current production of soybeans against proposed change to maize on 100 acres piece of land (6 marks)

- ii. Calculate the benefit-cost ratio (2 marks)
- iii. Advise the farmer accordingly (2 marks)