

PS 371  
Exam 1  
April 25, 1995

Name: \_\_\_\_\_

Points      Question:

(2 ea,  
ignore 1)

1.    Define:

Management:

Annuity:

Interest:

Imminence:

Delmarva Peninsula:

Marginal Costs:

Depreciation:

Production Function:

Non-cash Costs:

Sunk Costs:

Long-run Costs:

Short-run Costs:

Electronic Spreadsheet:

- (8)      2.    Draw a line graph showing typical production functions (label the axes: Units of input and Units of output):
- (8)      3.    Draw typical total variable and fixed cost curves based on the production function above (label the axes):
- (8)      4.    Draw typical average fixed cost, average variable cost and average total cost curves based on the production function above (label the axes):
- (5)      5.    How can marginal costs be used to decide the appropriate output level at which to produce?
- (10)     6.    Identify the ownership costs for options A & B (show any calculations on back):

		<u>A</u>	<u>B</u>
Name:	_____	Amount: _____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
Total		_____	_____

(3) 7. Circle the correct type of costs for a person considering becoming a contract broiler grower (option B):

Building	Fixed	Variable	Sunk
Grading	Fixed	Variable	Sunk
Well	Fixed	Variable	Sunk
Equipment	Fixed	Variable	Sunk
Litter	Fixed	Variable	Sunk
Electricity	Fixed	Variable	Sunk
Fuel	Fixed	Variable	Sunk
Repairs	Fixed	Variable	Sunk
Ins. & Prop. Taxes	Fixed	Variable	Sunk
Miscellaneous	Fixed	Variable	Sunk

(4) 8. Circle the correct type of costs for a contract broiler grower who has just placed chicks in his house:

Building	Fixed	Variable	Sunk
Grading	Fixed	Variable	Sunk
Well	Fixed	Variable	Sunk
Equipment	Fixed	Variable	Sunk
Litter	Fixed	Variable	Sunk

Electricity	Fixed	Variable	Sunk
Fuel	Fixed	Variable	Sunk
Repairs	Fixed	Variable	Sunk
Ins. & Prop. Taxes	Fixed	Variable	Sunk
Miscellaneous	Fixed	Variable	Sunk

- (4) 9. Calculate the payback period for option A, the tunnel ventilated house:
- (6) Why is the net present value of an investment more important than the payback period?
- (10) 10. Calculate the net present value of the investment in option B, assuming that the house and equipment will have no salvage value after 20 years.
- (4) 11. Does this house appear to be a good investment? Explain.
- (5) 12. If the grower had the money to invest in the tunnel ventilated house, what would his opportunity cost be for the first year if the interest rate on 1-year certificates of deposit was 7%?
- (3) 13. Based on the grower's net returns and opportunity costs, would this appear to be a good investment? Explain.

Use the following example for questions 6 through 13. They are for actual contracts offered in Georgia in 1995:

	<u>Option A</u>	<u>Option B</u>
Ventilation	Tunnel	Side Curtains
House capacity (started)	22,000	27,900
Batches/year	5.0	6.0
Bird weight (pounds)	6.25	4.0
Capacity marketed (%)	95	95
Contract payment (\$/lb)	<u>.045</u>	<u>.042</u>
Total returns (\$/yr)	\$29,658	\$26,717

Investments:

Buildings	\$ 60,000	\$ 60,400
Grading	5,500	5,500
Well	2,500	2,300
Equipment	<u>47,000</u>	<u>36,200</u>
Total	\$115,000	\$104,400

Loan repayment (10.5% for 20 years)	13,972	12,683
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Annual expenses:

Litter	\$1,200	\$1,000
Electricity	2,250	1,600
Fuel	2,200	2,200
Repairs	1,000	616
Ins. & prop. taxes	1,650	1,320
Miscellaneous	<u>500</u>	<u>328</u>
Total	\$8,800	\$7,064

Calculate:

Net Returns (\$/year)	_____	_____
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