

PS 371
Exam 1
Spring 1993

Name: _____

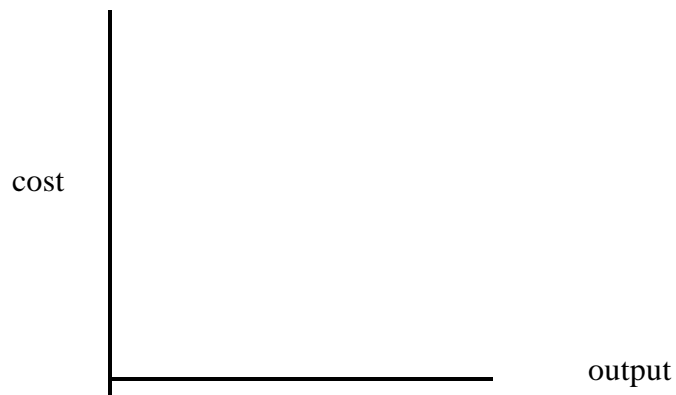
Points Question

1. What were two **major** technical developments or discoveries that were necessary for the following:
 - (4) a. Genetic improvements in egg production or growth rate?
 - (4) b. High density housing?
- (3) 2. What scientific discoveries do you think could be applied to the poultry industry in the future; or what technologies do you think could be developed to benefit the poultry industry or food production? Name two.
- (2 ea) 3. Define and give examples of:
 - Cash costs
 - Non-cash costs
 - Fixed costs
 - Variable costs
 - Sunk costs
 - Opportunity costs
 - Marginal costs
 - Define:
 - Depreciation
 - Interest
 - Insurance
- (12) 4. a. Draw production functions (technical relationships of inputs and outputs) for: A) A flock of broilers grown in the Summer; and B) a flock of broilers

grown in the Winter. Label the axes.



b. For the flocks in 4a (above), draw total variable cost curves (label the axes):



c. For the flocks in 4a (above), draw average total cost curves (label the axes):



- (6) 5. Draw average total cost curves for small, medium, and large hatcheries. Be sure and label each axis and each curve.



You may use one or more of these equations for the following questions:

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SHOW YOUR WORK FOR PARTIAL CREDIT

$$PV = A((1 - (1/(1+i)^t))/i) \quad PV = \text{Present Value}$$

$$FV = PV(1+i)^t \quad A = \text{Annuity}$$

$$FV = A(((1+i)^t - 1)/i) \quad FV = \text{Future Value}$$

$$PV = R/i \quad i = \text{Interest Rate}$$

$$\quad \quad \quad R = \text{Rent}$$

$$\quad \quad \quad t = \text{Time}$$

QUESTION 6 - ANSWER 3 OF 4 PARTS

- (9 ea) 6. a. Would you rather have \$3000 today or \$3500 in 5 years if interest rates are 4% per year compounded monthly?
- b. A piece of land is for sale or lease. You estimate the present value of the land is \$100,000. What would you be willing to pay per year for a long term lease. Assume the interest rate is 8%.
- c. If you place \$200 per month in a savings account, how much money will you have after 36 months. The interest rate is 5% per year.

- d. If you need \$10,000 for a down payment on a broiler house, how much would you have to save each year to have enough after 4 years? (Interest rate = 5% per year)
- (5) 7. If you are starting a new company and do not expect to make large profits the first few years, what depreciation method are you likely to choose, and why?
- (5) 8. What costs are involved in ownership?
- (1) Which are cash and which are non-cash costs?
- (1) Which can be deferred?
- (5) 9. What are the 5 steps in the decision-making process?
- (4) 10. What are the advantages and disadvantages of a cost structure which includes a high proportion of fixed costs (for instance, a very expensive house)?
- (3) 11. What is the most limiting resource of any firm?