

Green

Econ 330
Spring 2006
Exam 1

Name

Key

Part I. Multiple Choice. Indicate the best answer. (3 points each)

1. Which of the following are decision-making steps of management?
 - a. implementation, set goals, organize data
 - b. setting goals, make decision, accept responsibility
 - c. defining alternatives, evaluate outcome, analyze alternatives
 - d. accept responsibility, make decision
 - e. all are decision-making steps of management

2. We discussed the aspect of establishing S.M.A.R.T. goals. Examples of S.M.A.R.T. goals would include:
 - a. selective, time constrained, measurable.
 - b. measurable, assisting, routine
 - c. specific, measurable, time constrained
 - d. All of the above fit S.M.A.R.T. goals we discussed.
 - e. None of the above fit S.M.A.R.T. goals we discussed.

3. At the beginning of the semester we talked about the three C's. These were:
 - a. communication, customer's satisfaction, critical analysis.
 - b. coordination, cooperation, communication
 - c. communication, coordination, cash flow
 - d. communication, consumption, cooperation
 - e. none of the above

4. When a relationship between two products such as pork production and corn production exists where you can adjust your enterprise mix and increase the amount of one enterprise (pork) you produce, but it causes you to decrease the level of the second enterprise (corn) produced, these products are _____ products.
 - a. supplementary
 - b. complementary
 - c. competitive

5. Which of the following are sources of cost of production information for preparing budgets for agricultural enterprises?
 - a. your past records
 - b. agri-business firms
 - c. University Extension Service
 - d. other producers
 - e. all of the above

6. In lab 1 you looked at strategic management and tactical management. Tactical management is:
- Defining the mission of the business.
 - Charting the overall long term course of the business.
 - Taking short-run actions that keep the business moving along the course to reach a destination.
 - Formulating the goals of the business.
 - None of the above is tactical management.
7. An example of a supplementary relationship would be:
- You have 300 acres of cropland and if you raise more corn you need to raise less soybeans.
 - You have \$200,000 of capital (money) available and if you buy some equipment you cannot expand the cattle feeding operation.
 - You have 3,500 hours of labor available and you can raise livestock during the year where crops do not impact your labor and not impact your crop production.
 - All the above are examples of a supplementary relationship.
 - None of the above are examples of a supplementary relationship.
8. Steps to decision making would include:
- Define the problem.
 - Analysis of alternatives.
 - Accept the responsibility.
 - Evaluate the outcome over time.
 - All the above are steps to decision making.

The following information is for the following four questions (23-25).

“Herkey Hawkeye” is thinking about growing some corn this year (2006). As usual, “Herkey” has no idea what is going on. “Herkey” does get one thing right – that is to ask a “Cyclone” what to do. You help “Herkey Hawkeye” pull together the following information. The corn production information on “Cy’s” farm, which “Herkey” will cash rent until the Hawkeye’s beat the Cyclones in football (which will be forever!!!). The cash rent contract also indicates that the cash rent will increase by \$25.00 per acre per year. You are surprised “Herkey” would sign such a contract but again “Herkey” has no idea what is going on.

Pounds of Nitrogen/Per Acre	Bushels of Corn/Per Acre
0	100
30	120
60	125
90	128
120	130
150	132
180	133
210	130

9. If the cost of nitrogen is 25 cents per pound and the corn price is \$2.20 per bushel, how much nitrogen should "Herkey" apply to maximize profits?
- a. 60 pounds
 - b. 90 pounds
 - c. 120 pounds
 - d. 150 pounds
 - e. 180 pounds
10. What is the value of the increased corn yield (the marginal value product) for the 30 pounds of nitrogen as "Herkey" moves from 120 to 150 pounds of nitrogen? (The corn price is \$2.20 per bushel).
- a. \$290.40
 - b. \$2.30
 - c. \$6.60
 - d. \$4.40
 - e. None of the above
11. How low would the cost of nitrogen need to get before "Herkey" would apply 180 pounds of nitrogen? The price of corn is \$2.20 per bushel.
- a. "Herkey" should never apply as much as 180 pounds of nitrogen.
 - b. At a nitrogen cost of \$1.62 or less per pound "Herkey" would apply 180 pounds of nitrogen.
 - c. At a nitrogen cost of 7.33¢ or less per pound "Herkey" would apply 180 pounds of nitrogen.
 - d. "Herkey" should apply 180 pounds with a nitrogen price of \$.15 per pound or less.
 - e. Can't determine with the information provided.
12. Given that nitrogen costs \$.25 per pound, how high would the price of corn need to go before you would apply 180 pounds of nitrogen?
- a. At least \$5.00 or more per bushel.
 - b. At least \$2.50 or more per bushel.
 - c. At least \$2.20 or more per bushel.
 - d. At least \$7.50 or more per bushel.
 - e. Can't determine with information provided.
13. Types of decisions you would make in a farm business setting would include:
- a. repair versus replace the equipment.
 - b. are you going to change the size of the operation.
 - c. types of records to use.
 - d. what livestock health management strategies to use.
 - e. All of the above.

Indicated below are data for feed consumption and weight of market hogs for Pete's Pork Palace. It is for the next two questions.

Production Level	Weight of Hog (pounds)	Feed Fed (pounds)
1	75	260
2	125	430
3	175	620
4	225	830
5	275	1080
6	325	1413

14. Suppose the cost of the hog fattening ratio (feed) for Pete is \$200 per ton (2,000 pounds per ton) and the expected market hog price is \$46 per hundred weight (cwt). What is the profit maximizing level of production (assuming all other costs are constant, the hog price does not change as you go to heavier weights and you have the pig flow to go to heavier weights if that is the answer).
- Level 2 or 125 pounds
 - Level 3 or 175 pounds
 - Level 4 or 225 pounds
 - Level 5 or 275 pounds
 - Level 6 or 325 pounds
15. If the price of pork is \$40 per hundred weight, how low would the price of feed need to go before you would feed pigs out to 325 pounds?
- at least 10¢ per pound or lower
 - at least 9¢ per pound or lower
 - at least 8¢ per pound or lower
 - at least 6¢ per pound or lower
 - at least 5¢ per pound or lower

The following table applies to the following two questions. The information represents different hay and grain rations that will produce 150 pounds of beef at Betty's Beef Brigade. The grain price is \$.10 per pound and the hay price is \$.04 per pound.

Ration	Pounds of Hay	Pounds of Grain
1	1,050	250
2	750	350
3	510	450
4	300	550
5	150	650

16. Given that each ration will produce 150 pounds of beef for Betty, what ration should Betty use if the cost of hay is \$.04 per pound and the cost of grain is \$.10 per pound?
- ration 1
 - ration 2
 - ration 3
 - ration 4
 - ration 5

17. If the grain price decreased by \$.05 per pound or to \$.05 and the hay price decreased by \$.02 or to \$.02 Betty would:
- increase her amount of hay fed because it increased by \$.04 as compared to the \$.08 change in grain.
 - increase her amount of grain fed because it is a less bulky product for the money
 - not change the ration
 - increase the amount of beef produced
 - reduce the time the beef animals are on feed

You are provided the following information:

Bushels of Corn Produced	Marginal Input Costs	Pounds of Nitrogen
100		130
→	\$10	
140		
→	\$7	
160		
→	\$5	
170		
→	\$3	
175		

18. Given the above information and that the cost of nitrogen is \$.20 per pound, what is the number of pounds of nitrogen applied to produce 170 bushels of corn?
- 250 pounds
 - 240 pounds
 - 255 pounds
 - 235 pounds
 - None of the above.
19. In developing an enterprise budget, what are the areas to consider?
- income or revenue
 - expenses
 - profit
 - all of the above
 - only a and c above
20. We talked about some components of farm business management. These could include:
- economic theory.
 - records and/or budgets.
 - your goals and your family goals.
 - All of the above.
 - b and c above.

21. A production possibilities curve is useful for considering:
- a. profit maximizing combinations of multiple outputs.
 - b. the profit maximizing choice of a single input.
 - c. cost of minimizing combinations of inputs.
 - d. None of the above.
22. With a single input, marginal physical product is typically _____ for lower levels of input usage.
- a. higher
 - b. lower
 - c. Doesn't change.
 - d. None of the above.
23. When considering two inputs to produce an output, the least cost combination is where:
- a. the value marginal product of output equals the marginal revenue.
 - b. marginal revenue equals marginal input costs.
 - c. the marginal rate of substitution equals the inverse price ratio.
 - d. a and b above
 - e. None of the above.
24. Agriculture is a dynamic industry. Issues which managers need to evaluate include:
- a. access to information, global competition, business structure
 - b. access to capital, bioterrorism, labor
 - c. environmental concerns, consumer demand, worker and animal health
 - d. government program, technology, mergers
 - e. All of the above.
25. The equal marginal (equi-marginal) principle states that:
- a. you will apply resources in production until the marginal revenue equals marginal cost
 - b. a limited input should be allocated among alternative uses in such a way that the marginal value products of the last unit used on each alternative are equal
 - c. in limited input situations you will typically be losing money
 - d. all of the above
26. In the short run, to justify if you are going to plant a crop (You may be minimizing losses and not maximizing profit.)
- a. you will only plant if you can pay all crop production cost.
 - b. you will plant the crop if you can sell it for a profit.
 - c. you will plant the crop if you can receive enough revenue (value) to cover your fixed costs.
 - d. if you can at least cover your variable costs, such as fertilizer, seed, etc. you will plant.
 - e. none of the above is correct for making the planting decision.

Attached find a corn following soybeans low-till corn production budget. Questions 27 through 33 are based on this information.

27. In the attached corn budget provided, the labor rate of \$10.50 per hour is typically established using the concept of:
- a. variable cost for a fixed item.
 - b. cash cost for a fixed item.
 - c. fixed cost for a variable item.
 - d. opportunity cost.
28. Given the attached corn budget, what is the total fixed cost of producing a bushel of corn?
- a. \$1.45 per bushel
 - b. \$1.32 per bushel
 - c. \$2.78 per bushel
 - d. \$2.27 per bushel
 - e. None of the above.
29. Given the attached corn budget, what is the gross revenue (total revenue) per acre if the corn price is \$2.50 per bushel?
- a. \$112.50
 - b. \$162.15
 - c. \$387.50
 - d. \$315.00
 - e. None of the above.
30. Given the attached corn budget, if the price of corn is \$2.60 per bushel, what is the profit per acre?
- a. \$221.05
 - b. \$177.65
 - c. \$27.45
 - d. \$23.99
 - e. None of the above.
31. Given the attached corn budget what is the gross margin per acre if the corn price is \$2.40 per bushel?
- a. \$-58.45
 - b. \$179.45
 - c. \$372.00
 - d. \$146.65
 - e. None of the above.
32. How high would the price of corn need to be before you would plant corn in the short run? If the corn price was not this high you would let the land sit idle. For this problem you cannot switch to another crop.
- a. \$1.32 or more per bushel
 - b. \$1.46 or more per bushel
 - c. \$2.78 or more per bushel
 - d. \$2.25 or more per bushel
 - e. \$2.19 or more per bushel

33. If the interest rate on preharvest variable costs was 10 percent, what would be the interest cost on the preharvest variable costs for the corn budget provided. All other preharvest variable costs remain as provided in the budget.
- a. \$11.55
 - b. \$17.33
 - c. \$1.44
 - d. \$12.13
 - e. \$1.52

Part II. Bonus (2 points)

How do you spell the last name of the instructor of this class?

Kliebenster

The old sage says:

There are two theories to arguing with the opposite gender. Neither one works.

Contentment is not the fulfillment of what you want, but the realization of what you already have.

Low-till Corn and Soybeans

	<u>Corn Following Soybeans</u>			<u>Herbicide Tolerant Drilled Soybeans Following Corn</u>		
	155 bu. per acre			45 bu. per acre		
	Fixed	Variable	Your Estimate	Fixed	Variable	Your Estimate
Preharvest Machinery 1/	\$11.75	\$10.00	\$ _____	\$9.80	\$7.40	\$ _____
Seed, Chemical, etc.						
Seed @ \$1.50 per 1000 k.	26,000	\$39.00	\$ _____			
Seed @ \$28.00 per 50 lb.				1.4	\$39.20	\$ _____
Nitrogen @ \$0.35 per lb.	100	35.00	_____			
Phosphate @ \$0.37 per lb.	60	22.20	_____	35	12.95	_____
Potash @ \$0.23 per lb.	45	10.35	_____	70	16.10	_____
Lime (yearly cost)		7.00	_____		7.00	_____
Herbicide /2		34.70	_____		29.20	_____
Crop Insurance		7.00	_____		5.50	_____
Miscellaneous		8.00	_____		8.00	_____
Interest on preharvest variable costs (8 months @		8.66	_____		6.27	_____
Total		\$181.91	\$ _____		\$124.22	\$ _____
Harvest Machinery						
Combine	\$13.20	\$12.00	\$ _____	\$10.00	\$8.00	\$ _____
Haul	3.10	4.65	_____	0.90	1.35	_____
Dry (LP Gas @ \$1.40/gal.)	6.20	26.04	_____			
Handle	1.70	0.75	_____	0.55	0.25	_____
Total	\$24.20	\$43.44	\$ _____	\$11.45	\$9.60	\$ _____
Labor						
2.3 hours @ \$10.50	\$24.15		\$ _____			
1.75 hours @ \$10.50				\$18.38		\$ _____
Land						
Cash rent equivalent	\$145.00		\$ _____	\$145.00		\$ _____
Total fixed, variable						
Per acre		\$225.35	Yield: _____	\$184.63	\$141.22	Yield: _____
Per bushel			bu./acre _____	\$4.10	\$3.14	bu./acre _____
Total cost per acre		\$430.45	\$ _____	\$325.84		\$ _____
Total cost per bushel			\$ _____	\$7.24		\$ _____

1/ Apply N, plant, cultivate, and spray for corn. Tandem disk, drill and spray for soybeans. See the Estimated Machinery Costs table.

2/Estimates do not include any insecticide or fungicide costs.