

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, analyze alternatives
 - b. setting goals, make decision
 - c. defining alternatives, accept responsibility, evaluate outcome
 - d. accept responsibility, make decision, organize data
 - 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, much improved.
 - b. measurable, assisting, routine.
 - c. routine, 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, customer satisfaction.
 - 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, while also increasing 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

The following information is for the following five questions (6-10).

"Herkey Hawkeye" is thinking about growing some corn this year (2005). 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 Hawkeyes beat the Cyclones in football (which will be forever!!! This is starting next year.). The cash rent contract also indicates that the cash rent will increase by \$30.00 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	130
90	135
120	138
150	140
180	141
210	135

6. What is the value of the increased corn yield for the 30 pounds of nitrogen as 'Herkey' moves from 90 to 120 pounds of nitrogen? (The corn price is \$2.50 per bushel).
 - a. \$4.20
 - b. \$2.10
 - c. \$296.10
 - d. \$7.50
 - e. none of the above

7. The marginal input cost as you increase corn production by going from 60 to 90 units of nitrogen is:
 - a. \$4.50
 - b. \$.15
 - c. \$13.50
 - d. \$25.50
 - e. none of the above

8. Given that nitrogen costs \$.15 per pound, how high would the price of corn need to go to before you would apply 180 pounds of nitrogen fertilizer?
 - a. at least \$4.50 per bushel
 - b. at least \$2.50 per bushel
 - c. at least \$5.25 per bushel
 - d. at least \$1.98 per bushel
 - e. none of the above

9. You have 200 acres of corn and 15,000 pounds of nitrogen (1 unit of nitrogen is 30 pounds). How would you apply the nitrogen to the 200 acres to maximize profits from the 200 acres of corn?
 - a. 150 pounds to 100 acres, 0 to 100 acres
 - b. 75 pounds to each of the 200 acres
 - c. 150 pounds to 75 acres, 90 pounds to 41.67 acres, 0 to 83.33 acres
 - d. 180 pounds to 75 acres, 60 to 25 acres, 0 to 100 acres
 - e. none of the above is the best combination

10. If the cost of nitrogen is 15 cents per pound and the corn price is \$2.50 per bushel, how much nitrogen should 'Herkey' apply to maximize profits?
- 60 pounds
 - 90 pounds
 - 120 pounds
 - 150 pounds
 - 180 pounds
11. In the short run, to justify if you are going to harvest a crop which is now standing in the field: (You may be minimizing losses and not maximizing profit.)
- you will only harvest if you can pay all crop production cost.
 - you will harvest the crop if you can sell it for a profit.
 - you will harvest the crop if you can receive enough revenue (value) to cover your harvesting costs.
 - if you can cover your variable costs, such as fertilizer, seed, etc.
 - none of the above is correct for making the harvesting decision.
12. A production possibility curve shows:
- various combinations of outputs which can be produced from the same set of inputs
 - the slope of the marginal value product curve
 - all the levels of output of one product which can be produced from varying levels of one input
 - various combinations of inputs that produce the same level of output
13. You are provided the following information:

<u>Units of Nitrogen</u>	<u>Marginal Value Product</u>	<u>Bushels of Corn</u>
1		80
----->	\$40	
2		
----->	\$34	
3		
----->	\$24	
4		
----->	\$12	
5		

Given this and that the price of corn is \$2.00 per bushel, what is the number of bushels of corn produced with 2 units of nitrogen?

- 120 bushels
- 117 bushels
- 100 bushels
- 154 bushels
- none 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.

<u>Production Level</u>	<u>Weight of Hog (pounds)</u>	<u>Feed Fed (pounds)</u>
1	75	260
2	125	430
3	175	620
4	225	830
5	275	1050
6	325	1300

14. 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
 - none of the above
15. Suppose the cost of the hog fattening ration (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

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 \$.08 per pound and the hay price is \$.04 per pound.

<u>Ration</u>	<u>Pounds of Hay</u>	<u>Pounds of Grain</u>
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/lb. and the cost of grain is \$.08/lb.?
- ration 1
 - ration 2
 - ration 3
 - ration 4
 - ration 5

17. If the grain price increased by \$.08 per pound or to \$.16 and the hay price increased by \$.04 or to \$.08 Betty would:
- a. increase her amount of hay fed because it increased by \$.04 as compared to the \$.08 change in grain.
 - b. increase her amount of grain fed because it is a less bulky product for the money.
 - c. not change the ration.
 - d. increase the amount of beef produced.
 - e. reduce the time the beef animals are on feed.
18. In the attached soybean budget the cash rental rate (cash rent equivalent) of \$140.00 is used to value the land. This is 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.
19. Given the attached soybean budget, what is the total cost of producing a bushel of soybeans?
- a. \$4.16 per bushel
 - b. \$2.51 per bushel
 - c. \$6.67 per bushel
 - d. \$6.25 per bushel
 - e. None of the above
20. Given the attached soybean budget, what is the gross revenue (total revenue) per acre if the soybean price is \$7.00 per bushel?
- a. \$128.01
 - b. \$315.00
 - c. \$201.95
 - d. \$186.99
 - e. None of the above
21. Given the attached soybean budget, if the price of soybeans is \$6.75 per bushel, what is the profit per acre?
- a. \$3.71
 - b. \$190.70
 - c. \$116.76
 - d. \$23.99
 - e. None of the above
22. Attached is an example budget for soybean production. If the soybean price is \$6.50 per bushel, what is the gross margin per acre?
- a. \$-7.54
 - b. \$179.45
 - c. \$292.50
 - d. \$105.51
 - e. None of the above

23. 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
24. 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.
25. An isoquant is useful for considering:
- profit maximizing combinations of multiple outputs.
 - the profit maximizing choice of a single input.
 - cost minimizing combinations of inputs.
 - none of the above.
26. With a single input, marginal physical product is typically _____ for higher levels of input usage.
- higher
 - lower
 - doesn't change
 - none of the above
27. With a single input, profit is maximized where:
- the value marginal product of output equals the marginal revenue.
 - marginal revenue equals marginal input costs.
 - the marginal rate of substitution equals the inverse price ratio.
 - a and c
 - none of the above
28. You have purchased a tractor for \$120,000 and want to develop a budget which will help you determine the ownership (fixed) cost of the tractor. You calculate that the salvage value of the tractor will be \$24,000 and that the useful life of the tractor is 12 years. The interest rate is 6 percent. Given this, what is the level of annual depreciation for the tractor?
- \$10,000
 - \$12,000
 - \$4,320
 - \$8,000
 - none of the above
29. If soybean production was your only production alternative in the short run how high would the expected price of soybeans need to be before you would decide to plant the crop. Use the attached budget with the values as provided.
- \$4.16 or more per bushel
 - \$6.67 or more per bushel
 - \$2.51 or more per bushel
 - \$5.25 or more per bushel
 - None of the above

30. 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
31. 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

Part II. Short answer.

1. (6 points) Listed below are several cost items which would be included in a budget. Indicate if they would be a variable cost (VC) or a fixed cost (FC) item.

VC Seed for crop production which has already been applied

VC Feed you fed to livestock

VC Fuel for hauling crop

FC Hired labor (it is salaried for one year)

FC Interest on combine

VC Interest on fertilizer expense – rate is set at 6 percent

Part III. Bonus (2 pts.)

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

Kliebenstein

Non-Herbicide Tolerant Soybeans following Corn

Soybeans following Corn

45
bu. per acre

	Fixed	Variable	Your Estimate
Preharvest Machinery 1/	\$15.10	\$10.61	\$ _____
Seed, Chemical, etc.			
Seed @ \$19.00 per 50 lb.	1.2	\$23.00	\$ _____
Phosphate @ \$0.33 per lb.	35	11.55	_____
Potash @ \$0.18 per lb.	70	12.60	_____
Lime (yearly cost)		6.00	_____
Herbicide 2/		25.00	_____
Crop Insurance		5.00	_____
Miscellaneous		7.00	_____
Interest on preharvest variable costs (8 months @ 6.5%)		4.37	_____
Total		\$94.52	\$ _____
Harvest Machinery			
Combine	\$9.07	\$6.90	\$ _____
Haul	0.90	0.77	_____
Handle	0.55	0.25	_____
Total	\$10.52	\$7.92	\$ _____
Labor			
2.25 hours @ \$9.50	\$21.38		\$ _____
1.75 hours @ \$9.50			
Land			
Cash rent equivalent	\$140.00		\$ _____
Total fixed, variable			
Per acre	\$186.99	\$113.05	Yield:
Per bushel			bu./acre _____
Total cost per acre		\$300.04	\$ _____
Total cost per bushel			\$ _____

1/Chisel plow, tandem disk, field cultivate, plant, cultivate, and spray.

Tandem disk, field cultivate, drill and spray for drilled soybeans. See the Estimated Machinery Costs table.

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