Part I. Multiple Choice. Indicate the best answer. (4 pts. ea.)

1. An important component of business management is development of a mission statement. A mission statement:
   a. Outlines all of your detailed crop production plans such as level of fertilizer to use, etc.
   b. Is a short statement of why the business exists.
   c. Can only be established after you have established your goals.
   d. Can only be established after you have selected enterprises for the farm.
   e. All of the above.
   f. a and b above relate to a mission statement.

2. In Lab 1 you looked at strategic management and tactical management. Examples of tactical management would be:
   a. Determining the acres of corn to produce next year.
   b. Charting the overall long term course of the business.
   c. Determining the number of replacement dairy heifers needed.
   d. Determining if you will cash rent the neighboring 80 acres next year.
   e. a, c, and d above.

3. An example of a competitive goal (relationship) would be:
   a. You have 300 acres of cropland and if you raise more alfalfa you have more nitrogen in the soil also.
   b. You have $200,000 of capital (money) available and if you buy some equipment you cannot expand the cattle feeding operation.
   c. You have 3,500 hours of labor available and if you use more in livestock production you need to cut back on crop production.
   d. All of the above are examples of competitive relationship.
   e. b and c above are examples of a competitive relationship.

4. Steps to decision making would include:
   a. Define the problem.
   b. Identify alternatives.
   c. Implement the decision.
   d. Evaluate the outcome over time.
   e. All of the above are steps to decision making.

5. At the beginning of the semester we talked about the three C’s. These were:
   a. Communication, customer’s satisfaction, critical analysis.
   b. Coordination, consumer impact, communication.
   c. Communication, coordination, cash flow.
   d. Communication, consumption, cooperation.
   e. None of the above.
6. We discussed the aspect of establishing S.M.A.R.T. goals. Examples of S.M.A.R.T. goals would include:
   a. Specific, time constrained, much improved.
   b. Measurable, all improved, realistic.
   c. Realistic, measurable, total family involved.
   d. Routine, measurable, specific.
   e. All of the above fit S.M.A.R.T. goals we discussed.
      None of the above fit S.M.A.R.T. goals we discussed.

7. 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
      All of the above.

8. The equal marginal (equi-marginal) principle states that:
   a. You will apply resources in production until the marginal revenue equals marginal cost
      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.

9. We talked about some components of farm business management. These could include:
   a. Economic theory.
   b. Records and/or budgets.
   c. Your goals and your family goals.
      All of the above.
   e. b and c above.

10. 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.)
    a. You will only harvest if you can pay all crop production cost.
    b. You will harvest the crop if you can sell it for a profit.
    c. You will harvest the crop if you can receive enough revenue (value) to cover your harvesting
        costs.
    d. You will harvest the crop if you can cover your variable costs, such as fertilizer, seed, etc.
    e. None of the above is correct for making the harvesting decision.
The following information is for the following five questions (11-15).

“Herkey Hawkeye” is thinking about growing some corn next year. 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 basketball (This is likely to be a real long lease!!!). The cash rent contract also indicates that the cash rent will increase by $50.00 per acre per year. You are surprised “Herkey” would sign such a contract but again “Herkey” has no idea what is going on.

<table>
<thead>
<tr>
<th>Pounds of Nitrogen/Per Acre</th>
<th>Bushels of Corn/Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>120</td>
</tr>
<tr>
<td>20</td>
<td>135</td>
</tr>
<tr>
<td>40</td>
<td>155</td>
</tr>
<tr>
<td>60</td>
<td>165</td>
</tr>
<tr>
<td>80</td>
<td>167</td>
</tr>
<tr>
<td>100</td>
<td>168</td>
</tr>
<tr>
<td>120</td>
<td>167</td>
</tr>
<tr>
<td>140</td>
<td>160</td>
</tr>
</tbody>
</table>

11. If the cost of nitrogen is 30 cents per pound and the corn price is $3.20 per bushel, how much nitrogen should “Herkey” apply to maximize profits?
   a. 40 pounds
   b. 60 pounds
   c. 80 pounds
   d. 100 pounds
   e. 120 pounds
   f. 140 pounds

   - c. 80 pounds

12. What is the value of the increased corn yield for the 20 pounds of nitrogen as “Herkey” moves from 40 to 60 pounds of nitrogen? (The corn price is $3.20 per bushel).
   a. $192.00
   b. $528.00
   c. $32.00
   d. $12.50
   e. None of the above.

   - c. $32.00

13. How high would the cost of nitrogen need to get before “Herkey” would not apply more than 60 pounds of nitrogen per acre. (The price of corn is $3.20 per bushel).
   a. “Herkey” should never apply more than 60 pounds of nitrogen even if it is free.
   b. At $1.60 per pound ($32.00 for 20 pounds) “Herkey” should apply 60 pounds.
   c. At $.80 per pound ($16.00 for 20 pounds) “Herkey” should apply 60 pounds.
   d. “Herkey” should go to 60 pounds with the price at $1.10 cents per pound.

   - b. At $1.60 per pound ($32.00 for 20 pounds) “Herkey” should apply 60 pounds.

14. How high would the price of corn need to go before “Herkey” would apply 120 pounds of nitrogen?
   a. To at least $56.00 per bushel
   b. To at least $6.00 per bushel
   c. Herkey should never apply 120 pounds of nitrogen per acre
   d. To $4.20 per bushel
   e. None of the above.

   - c. Herkey should never apply 120 pounds of nitrogen per acre
15. Herkey has 100 acres of corn and 2,000 pounds of nitrogen. How should “Herkey” apply the nitrogen to maximize profits from the 100 acres of corn?
   a. 100 pounds to 20 acres, 0 to 80 acres
   b. 20 pounds to each of the 100 acres
   c. 40 pounds to 50 acres and 0 pounds to 50 acres
   d. 60 pounds to 33.33 acres; 0 to 66.67 acres
   e. None of the above is the best combination.

16. You are provided the following information:

<table>
<thead>
<tr>
<th>Units of Nitrogen</th>
<th>Marginal Value Product</th>
<th>Bushels of Corn</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$60</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>$51</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$36</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>$18</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Given this and that the price of corn is $3.00 per bushel, what is the number of bushels of corn produced with 2 units of nitrogen?
   a. 155 bushels
   b. 137 bushels
   c. 120 bushels
   d. 160 bushels
   e. None of the above.

Questions 17 and 18 are based on the following information. You have purchased a tractor for $100,000 and are looking to calculate the depreciation for business purposes. You plan on keeping the tractor for five years and have checked the used tractor values and determine that the salvage value will be $60,000. The interest rate is 7 percent and you estimate that the repairs will be $7,000 per year.

17. Given this information, what is your amount of depreciation per year on the tractor?
   a. $12,000
   b. $8,000
   c. $20,000
   d. $16,000
   e. None of the above.

18. Given this information, what is the level of interest expense that is the fixed cost or ownership cost?
   a. $7,000
   b. $2,800
   c. $5,600
   d. $8,000
   e. 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 three questions.

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

19. If the price of pork is $40 per hundred liveweight and the feed cost is $.06 per pound what is the best weight for Pete to market his hogs?
   a. 125 pounds or level 2
   b. 175 pounds or level 3
   c. 225 pounds or level 4
   d. 275 pounds or level 5
   e. 325 pounds or level 6

20. If the price of pork is $40 per hundred weight, how high would the price of feed need to go before you would feed pigs out to no more than 175 pounds?
   a. At least 10.53¢
   b. At least 9.76¢
   c. At least 8.26¢
   d. At least 6.75¢
   e. At least 15.74¢ per pound or lower

21. Examples of issues or problems the Henry’s identified on their farming operation includes:
   a. Adding a livestock enterprise to have.
   b. The high level of SCN in soybeans.
   c. Having sufficient time for the family.
   d. The level of erosion on some of their fields.
   e. All of the above.

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.

<table>
<thead>
<tr>
<th>Ration</th>
<th>Pounds of Hay</th>
<th>Pounds of Grain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,050</td>
<td>250</td>
</tr>
<tr>
<td>2</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>3</td>
<td>510</td>
<td>450</td>
</tr>
<tr>
<td>4</td>
<td>300</td>
<td>550</td>
</tr>
<tr>
<td>5</td>
<td>150</td>
<td>650</td>
</tr>
</tbody>
</table>

22. 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.?
   a. Ration 1
   b. Ration 2
   c. Ration 3
   d. Ration 4
   e. Ration 5
23. 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.
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 |
| VC | Veterinary expense in producing beef                    |
| FC | Depreciation on your equipment                           |

Part III. Bonus (2 points)

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

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.