Economics 330
Fall 2006
Exam 1

Name Key

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

1. 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. specific, measurable, time constrained.
   d. routine, measurable, specific.
   e. All of the above fit S.M.A.R.T. goals we discussed.
   f. None of the above fit S.M.A.R.T. goals we discussed.

2. 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 the above.
   f. a and b above relate to a mission statement.

3. In lab 1 you looked at strategic management and tactical management.
   Tactical management is:
   a. Determining the acres of corn to produce next year.
   b. Determining if you will place cattle on feed.
   c. Determining the number of replacement dairy heifers needed.
   d. Determining if you will cash rent the neighboring 80 acres next year.
   e. All of the above are tactical management functions.

4. An example of a supplementary goal (relationship) would be:
   a. You have 300 acres of cropland and if you raise more corn you need to raise less soybeans.
   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 the above are examples of a supplementary relationship.
   e. None of the above are examples of a supplementary relationship.

5. Steps to decision marking would include:
   a. Define the problem.
   b. Analysis of alternatives.
   c. Accept the responsibility.
   d. Evaluate the outcome over time.
   e. All the above are steps to decision making.

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

7. Which of the following best describes a "particular" balance sheet?
   a. it shows farm income and expenses you expect for next year.
   b. it shows the level of loan principle payments you made over a period of time.
   c. it shows assets and liabilities at a point in time.
   d. it shows business change in profit for the last accounting period.
   e. None of the above describes a "particular" balance sheet.

8. If business assets are less than business liabilities the business is:
   a. bankrupt
   b. solvent
   c. profitable
   d. liquid
   e. financially stable

9. You prepare a balance sheet on December 31 of each year. An account receivable on the balance sheet is one where:
   a. it shows the amount of interest you paid this year for a loan which was due last year.
   b. it represents an account which represents something you have sold and not yet received payment.
   c. you missed accounting for the amount of interest last year so you include it this year.
   d. it reflects the total cash interest you paid on a loan this year.
   e. it represents such things as a feed bill outstanding at the end of the accounting period.

10. Which of the following is an example of a **long term loan**?
   a. A land loan.
   b. A fertilizer loan.
   c. The value of land.
   d. A loan for beef cows.
   e. None of the above.

The next eight questions (11-18) are based on the information for the 330 Acres Accrued Income Statement and Financial Analysis Data which is provided.

11. What is the debt-to-asset (debt/asset) ratio for 330 Acres?
   a. 2.507
   b. .467
   c. .399 ✓
   d. .692
   e None of the above.

   D/A

12. What is the working capital for 330 Acres?
   a. $320,631
   b. $111,222
   c. $66,169 ✓
   d. $533,391
   e. $267,901
   f. None of the above.

   CA-CL

13. What is the current ratio for 330 Acres? (As calculated in the text.)
   a. 1.769
   b. 2.838 ✓
   c. .339
   d. 2.507
   e. None of the above.

   CA/CL

14. What is the equity to asset (net worth) ratio for 330 Acres? (Use Farm Net Worth)
    a. .706
    b. .308
    c. .533
    d. .601 ✓
    e. .207
    f. None of the above.

Net worth / Asset

15. Is 330 Acres operation solvent?
    a. Yes
    b. No
    c. Can't determine with the information provided.

16. What is the rate of return on assets (return on investment) for 330 Acres?
    a. 9.33% ✓
    b. 8.09%
    c. 6.18%
    d. 3.95%

NFIFO + Interest
43,193
+ 16,805
59,998
- 10,200
49,798

49,798 / 533,391

17. What is the rate of return on equity (ROE) (return on equity) for 330 Acres?
    a. 8.79%
    b. 13.47%
    c. 16.65%
    d. 10.29% ✓
    e. None of the above.

NFIFO 43,193
- 10,200
32,993
÷ 320,631

18. What is the management return for 330 Acres? (Calculate the way we calculated it in class and as calculated in the book.) (If you need to calculate an asset charge use 4%.)
    a. $43,193
    b. $38,662
    c. $21,114
    d. $28,462 ✓
    e. $16,793

43,193
+ 16,805
59,998
- 4% - 21,335.64
- 10,200
28,462.36

19. Reasons why you would keep records would include:
    a. a basis for comparison with how you have done over time.
    b. a basis for comparison with similar types of farming operations.
    c. a basis for comparison with your goals.
    d. record results can be used for planning for the future.
    e. all are reasons for keeping records.

20. The prime purpose of records should be
    a. that they are complex and detailed enough that everything will be in the record system.
    b. to help you in locating the strong and weak points of the business.
    c. to position you where you can tell your landlord that you have records.
    d. to satisfy the Internal Revenue Service on your taxes.
    e. to be able to show your neighbor how well you did.

The next three questions (21-23) are based on the following information. Your neighbor "Hawkeye Harvey" has purchased a tractor for her crop operation. She heard that you were in Econ 330 and that depreciation methods had been discussed. Being a "Hawkeye" she had never heard of depreciation or any other business thing. She was wondering how much depreciation she would calculate for her business records. She gave the following information on the tractor.

Purchase price	$100,000
Years of useful life	5 years
Salvage value	$15,000
Purchase date	January 1, 2006

21. What is the amount of depreciation "Hawkeye Harvey" would claim in year 3 using the straight line method of depreciation?
    a. $8,000
    b. $12,000
    c. $48,000
    d. There is not any depreciation remaining for year 4.
    e. None of the above.

22. What is the amount of declining balance depreciation "Hawkeye Harvey" would claim in the third year using the double declining balance method of depreciation?
    a. $40,000
    b. $24,000
    c. $14,400
    d. $12,200
    e. None of the above.

yr 1 100,000 x .4 = 40,000
yr 2 60,000 x .4 = 24,000
yr 3 36,000 x .4 = 14,400

23. What is the amount of sum-of-the-year-digits depreciation that you would claim in Year 4?
    a. $17,000.00
    b. $22,666.67
    c. $28,333.33
    d. $11,333.33
    e. None of the above.

(100,000 − 15,000) × 2/15

The following information is for the following two questions (24-25).

"Herkey Hawkeye" is thinking about growing some corn next year (2007). 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!!!). 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

24. If the cost of nitrogen is 30 cents per pound and the corn price is $2.00 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

25. How high would the price of corn need to be before 'Herkey" would apply 180 pounds of nitrogen? (The cost of nitrogen is .30 cents per pound.)
    a. At least $4.50 per bushel or more.
    b. At least $9.00 per bushel or more.
    c. At least $1.50 per bushel or more.
    d. At least $3.00 per bushel or more.
    e. Herkey should never apply 180 pounds of nitrogen.

Part II. Bonus (2 points)

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

_____

330 Acres

FINANCIAL ANALYSIS DATA

Sample

2004 Production Year Farm: Sample Run Date: 3/9/2005

	Iowa Farm Business Association		Operator(s)
201	**Accrued Net Farm Income**	**$**	**43,193**
202	**Management Return**	**$**	
203			
204	Gross Profits/Man Year Equivalent	$	326,600
205	Gross Profits/$ Expense	$	1.36
206	Return on Capital-Unpaid Labor	$	6.3
207	GVC - Fert & Crop Expense/OCA	$	348.73
208	Livestock Prod/$100 Feed Fed	$	
209	Mach & Pwr Cost-75% Cust/OCA	$	131.46
210	Mach & Pwr Investment/OCA	$	369.94
211	Months of Labor	MO	6
212	Operator Age	YR	52
213	**Gross Profits**	**$**	**163,300**
214	Total Crop Production	$	140,475
215	Livestock Prod/Feed Cost	$	10,775
216	Income Other Sources	$	11,139
217	Crop Marketing & Inventory +or-	$	911
218			
219	**Number of Farms**		**1**
220	Feeding Livestock	$	
221	Corn	$	30,372
222	Beans	$	40,019
223	Other Feedstuffs	$	270
224	Prepaid Expense & Supplies	$	31,508
225	**Farm Short Term Assets**	**$**	**102,169**
226	Breeding Livestock	$	
227	Mach & Equip Value	$	111,222
228	**Farm Intermediate Assets**	**$**	**111,222**
229	Bare Land Value	$	320,000
230	Improvement Econ Value	$	
231	**Total Farm Assets**	**$**	533,391
232	Operator Notes		36,000
233	Accrued Accts Payable	$	
234	Int & Long Term Due in 12 Mo	$	
235	CCC Loans	$	
236	**Short Term Liabilities**	**$**	**36,000**
237	**Intermediate Notes**	**$**	
238	**Long Term Land & Imprv Notes**	**$**	**176,760**
239	**Total Farm Liabilities**	**$**	212,760
240	**Net Farm Worth**	**$**	320,631
241	Personal Net Worth	$	
242	**Total Net Worth**	**$**	320,631
243	Net Worth Change for Year	$	**47,306**
244	**Liquidity Measurement**		
245	Current Ratio		
246	Current Debt Ratio		
247	**Solvency Measurement**		
248	Leverage Ratio		
249	Debt to Asset Ratio		
250	Equity Value Ratio		
251	**Profitability Analysis**		
252	Return on Equity		
253	Return on Investment (I		
254	Profit Margin (I		
255	Gross Income Ratio		
256	Turnover Ratio		
257	Expense Structure		

330 Acres

ACCRUED INCOME STATEMENTS

Sample

2004 Production Year | Farm: Sample | Run Date: 3/9/2005

Iowa Farm Business Association			Operator(s)
101	**Accrued Net Farm Income**	**$**	**43,193**
102	**Accrued Net/Operator**	**$**	**43,193**
103			
104	**Sources of Cash Income**		
105	Corn	$	73,208
106	Soybeans	$	23,132
107	Other Crop	$	6,600
108	Hogs	$	
109	Cattle	$	
110	Other Livestock	$	10,775
111	Miscellaneous	$	16,856
112	**Total Cash Farm Incomes**	**$**	**130,571**
113	Accrued Incomes	$	
114	Food from Farm	$	
115	Inventory Increase	$	32,729
116	**Total Business Credits**	**$**	**163,300**
117			
118	**Expenditures**		
119	Machine & Equipment Repairs	$	4,304
120	Fuel & Oil Farm Use	$	1,001
121	Power & Machine Hire	$	16,208
122	Owned Truck	$	4,870
123	Auto Expense Farm Share	$	
124	Utilities Farm Share	$	3,983
125	Labor Hired	$	
126	Livestock Expense	$	461
127	Crop Expense	$	27,424
128	Fertilizer & Lime	$	10,853
129	Miscellaneous Expense	$	1,174
130	Rent	$	12,000
131	Taxes	$	2,894
132	Interest	$	16,805
133	Insurance	$	5,772
134	Building & Improvement Repairs	$	
135	Total Feed Bought	$	
136	Hogs Bought	$	
137	Cattle Bought	$	
138	Other Livestock Bought	$	
139	Beans Bought from Seal	$	
140	**Total Cash Expense**	**$**	**107,749**
141	Economic Depreciation	$	12,358
142	Inventory Decrease & Mach Value	$	
143	Accrued Expenses	$	
144	**Total Business Debits**	**$**	**120,107**
145	**Accrued Net Farm Income**	**$**	**43,193**
1		$	
147	Less Unpaid Family Labor	$	10,200
		$	
150	**Total Cash Farm Incomes**	**$**	**130,571**
151	Less Cash Farm Expenses	$	107,749
152	Plus Loans Received	$	126,556
153	Less Loan Payments	$	102,246
154	**Total Farm Cash Flow**	**$**	**47,132**
155	Plus Non Farm Incomes	$	
156	**Remaining Cash Available**	**$**	**47,132**
157	Non Farm Income % Cash Available		