

FFA Farm Business Management Career Development Event

State Preliminary

January, 2004

PART II

200 Points
2 Hours

Answer each question directly on the code sheet provided. Since there are usually several different approaches to solving each question, do not be concerned if your answer is a few pennies more or less than the alternatives provided. Many answers have been rounded off to the nearest whole dollar or nearest thousand dollars.

You should receive a package with 8 exhibits that are part of the test. Your test booklet should have 7 numbered pages of questions (including this page). There are 33 questions and each correct answer is worth 6 points. You may use a calculator.

The budgets provided for this test include all costs other than the costs of overhead, risk and management (including the manager's labor contribution). The difference between specified costs and total receipts is called "returns to overhead, risk and management" and is abbreviated as ORM. Copies of the budgets are available at <http://nfrec.ifas.ufl.edu/Hewitt/budgets.htm>

For each question make only those assumptions specified for that question. Unless explicitly specified, assumptions do not "carry forward" to the next question.

All Federal Income Tax related questions in this contest are based on tax rules as specified in the IRS Farmer's Tax Guide for 2003 returns (Exhibit 8).

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Questions 51-65 are based on the 2003 budgets in Exhibits 1-4. These budgets were prepared by Professor Timothy Hewitt of the Food & Resource Economics Department, University of Florida.

51. In what way is the cotton farmer different from the corn and grain sorghum farmers?
- a. He uses no fertilizer.
 - b.* He does not own his harvesting equipment.
 - c. He has no fixed costs.
 - d. His seed costs more.
52. The cotton budget includes a “scouting fee”. This is most likely to be a payment for the services of a(n)
- a.* entomologist
 - b. economist
 - c. agronomist
 - d. scoutmaster
53. The current rental rate for cropland in north Florida is
- a. \$10 per acre
 - b. \$400 per acre
 - c.* \$25,600 per section
 - d. can't tell based on the budgets provided
54. Each of the budgets provided is based on an interest rate of
- a. 20% per annum
 - b.* 10% per annum
 - c. 5% per annum
 - d. none of the above
55. Miguel has 40 acres of grain sorghum and his average yield is 63 bushels per acre. What is his break-even price for total costs?
- a. \$3.45
 - b. \$2.96
 - c. \$2.71
 - d.* \$3.29
56. What is the total cost per mile of the pick-up truck in the grain sorghum budget?
- a. \$0.16
 - b. \$0.17
 - c.* \$0.33
 - d. \$3.20

57. Sue has 10 acres of irrigated watermelons. A broker has offered to buy the melons at \$0.06 per pound. At this price, what is her break-even yield for total costs?

- a. 22.7 pounds/acre
- b.* 27,237 pounds/acre
- c. 29.6 pounds/acre
- d. 30,050 pounds/acre

58. Sam has ten acres of irrigated watermelons and 70 acres of cotton. What are his total costs?

- a.* \$53,300
- b. \$42,600
- c. \$27,500
- d. \$67,100

59. Sabrina owns ten acres of irrigated watermelon land, so she pays no land rent. If the budget were prepared using the opportunity cost of her owned land, what would her total costs per acre be?

- a. \$1,594.22
- b.* \$1,634.22
- c. \$1,674.22
- d. \$1,734.22

60. Juan's farm produced the results shown in the box below:

	Acres	Yield	Price
Cotton	20	700 lbs/acre	\$0.90/lb
Corn	30	70 bu/acre	\$3.00/bu

What is Juan's return to ORM per acre for corn?

- a. \$210.00
- b. \$246.44
- c. \$12.78
- d.* -\$36.44

61. Using the information in question #60, what is Juan's total return to ORM for the farm?

- a.* \$946.20
- b. \$1,238.55
- c. -\$846.22
- d. -\$2,289.52

62. Using the information in question #60, how many tons of nitrogen would Juan use?

- a. 1.6 tons
- b.* 2.6 tons
- c. 4.5 tons
- d. 6.3 tons

63. Wendy has a watermelon patch that yields her 20,000 pounds per acre. At any price below _____ she would not harvest the melons and just let them rot in the field.

- a. 7.36 cents/pound
- b. 8.17 cents/pound
- c.* 3.00 cents/pound
- d. 0.00 cents/pound

64. If you look closely you will see that the cotton budget is based on a yield of 700 pounds/acre. What would the total cash expenses be for a farmer with a yield of 800 pounds/acre?

- a. \$487.57
- b. \$528.03
- c.* \$497.57
- d. can't tell based on the information provided

65. Jan has ten acres of cotton. She must borrow to cover all of her cash expenses. Hence, she would borrow _____ and repay _____ at the end of six months.

- a. \$4,875.70; \$4,875.70
- b.* \$4,643.50; \$4,875.70
- c. \$4,875.70; \$5,363.27
- d. \$4,643.50; \$5,107.85

Questions 66-71 are based on the net worth statement (or balance sheet) for the Black farm and ranch shown in Exhibit 5.

66. At the end of 2003, how much equity do the Jones have in their real estate?

- a.* \$1,185,901
- b. \$1,782,143
- c. \$596,242
- d. \$841,380

67. At the end of 2002, what was the Jones' current ratio?

- a. 1.87
- b. 0.89
- c. 1.26
- d.* 0.53

68. At the end of 2003, what is the net worth of the Jones farm?

- a. \$846,023
- b. \$952,862
- c.* \$1,172,798
- d. \$2,126,431

69. At the end of 2003, what is the Jones' leverage ratio?
- a.* 0.81
 - b. 1.23
 - c. 0.34
 - d. 2.44
70. By how much did the Jones' net worth increase from the end of 2002 to the end of 2003?
- a. \$128,503
 - b. \$741,893
 - c. -\$91,936
 - d.* \$476,897
71. What is the percentage change of intermediate assets from 2002 to 2003?
- a. -51%
 - b.* 147%
 - c. 60%
 - d. 247%

Questions 72-77 deal with financial analysis. Each problem can be solved using the financial tables presented in Exhibits 6 and 7.

72. What is the present value of \$600 to be received 7 years from now using a 6% discount rate?
- a. \$252
 - b. \$268
 - c. \$902
 - d.* \$399
73. If \$800 is placed in a bank account that earns 6% compounded annually, how much will be in the account at the end of 15 years?
- a. \$1,520
 - b. \$1,235
 - c.* \$1,917
 - d. \$2,397
74. As part of a legal settlement, John is to receive \$2,000 a year for each of the next ten years. Using a discount rate of 8%, what is the total present value of these payments?
- a. \$20,000
 - b.* \$13,420
 - c. \$8,000
 - d. \$6,834

75. Joey bought some land for \$820,000. He financed it with an 80% mortgage that lasts 30 years. The interest rate on the mortgage is 8%. What are his annual payments?
- a. \$21,870
 - b. 32,460
 - c. 49,620
 - d.* 58,271
76. Using the data in question #75, how much could Joey save over the 30 year payment period if he were able to obtain the mortgage at 6% rather than 8%?
- a. zero
 - b.* \$318,400
 - c. \$479,200
 - d. \$597,500
77. Ralph and Michelle have a new baby girl. How much would they have to put into a college fund that earns 8% such that they would have \$200,000 when the baby is 18 years old?
- a.* \$5,340
 - b. \$11,110
 - c. \$8,720
 - d. \$9,830

Questions 78-83 concern federal taxes. For all questions the IRS publication Farmers Tax Guide is the definitive source of information. Portions of that publication are included as Exhibit 8.

78. In March, 2003 Sam bought a used 2001 tractor for \$46,000. He paid \$10,000 in cash and financed the rest with a loan from his bank. When it was new the tractor cost \$95,000. For the purposes of Sam's depreciation, what is the basis of this tractor?
- a. \$36,000
 - b. \$10,000
 - c.* \$46,000
 - d. \$95,000
79. In general, what is the limit on Section 179 deductions?
- a. zero
 - b. \$50,000
 - c. total taxable farm income
 - d.* \$100,000
80. In March, 2001 Sue bought a new combine for \$120,000. Using the standard MACRS/GDS/150% DB depreciation method, how much depreciation on the combine can Sue claim on her 2003 return?
- a.* \$18,036
 - b. \$17,143
 - c. zero
 - d. \$15,000

81. In May, 1998 Swen completed the installation of a grape orchard at a cost of \$400,000. He elected to use MACRS/GDS/SL depreciation. How much depreciation can Swen claim on his 2003 return?

- a. \$60,120
- b. \$74,923
- c.* \$40,000
- d. \$20,000

82. In November, 2003 Joe bought some dairy cattle for \$35,000. This was the only depreciable purchase he made in 2003. Using MACRS/GDS/150%DB depreciation methods, how much depreciation can he claim on his 2003 return?

- a.* \$1,312
- b. \$10,500
- c. \$5,250
- d. \$7,000

83. Using the assumptions of question #82, if Joe elected to take a Section 179 deduction instead of a depreciation deduction, how much of a deduction could he claim on his 2003 return?

- a.* \$35,000
- b. \$10,500
- c. \$5,250
- d. \$7,000

End of Part II