Multiple Choice. Circle the best answer. Put a square around your second choice if you want. Half-credit is given for second choice, no penalty.

1. Which of the following is **not** an important factor used by lenders when evaluating the loan decision for a potential borrower?  **(4 pts.)**
   - a. Repayment Capacity
   - b. Management Ability
   - c. Personal Character
   - d. Available Collateral
   - e. Farm Size

2. Which of the following is **not** one of the general management strategies for dealing with risk?  **(4 pts.)**
   - a. Manage for highest possible net income
   - b. Improve risk bearing ability of the business
   - c. Set a minimum income or price level
   - d. Maintain flexibility of decision making
   - e. Reduce the variability of possible outcomes

3. The total cost of borrowing capital includes:  **(4 pts.)**
   - a. Appraisal fees
   - b. Annual Percentage Rate (APR)
   - c. Closing fees or Points
   - d. All of the above
   - e. None of the above

4. A cash flow budget can be useful for:  **(4 pts.)**
   - a. Income tax planning
   - b. Providing information to outside advisors
   - c. Scheduling purchases and sales
   - d. Scheduling debt repayments
   - e. All of the above
   - f. None of the above

5. The process where earned interest is reinvested at the end of each period is called:  **(4 pts.)**
   - a. Amortization
   - b. Compounding
   - c. Discounting
   - d. Risk Premium
6. Assets pledged or mortgaged as security for a loan are called: (4 pts.)
   a. Gifts
   b. Unsecured
   c. Excessive
   d. Debt
   e. Collateral

7. If a loan cannot be repaid, what can the lender do? (4 pts.)
   a. Take possession of the assets pledged or mortgaged as security for a loan
   b. Hire a bouncer to make you pay
   c. Sell the assets pledged or mortgaged as security for a loan to pay off the loan and accumulated interest
   d. Collect fees for the extra costs of servicing a non-performing (bad) loan
   e. A, C and D
   f. None of the above

8. Assume that yield records from your farm showed that soybean yields on owned land have averaged 48 bushels per acre (bu/a) over the past 10 years. And, that the highest yield during that time was 58 bu/a while the lowest yield was 34 bu/a, which results in a range of 24 bu/a. The calculated yield variance was 72.5 and calculated standard deviation was 8.5. What is the coefficient of variation for soybean yields on owned land? (4 pts.)
   a. 1.51
   b. 1.21
   c. 0.71
   d. 0.50
   e. 0.18

9. Assume that you are considering diversifying your cropping plans and are evaluating adding either Winter Wheat or Sunflower to your crop rotation. You estimate that the coefficient of variation for net income from producing Winter Wheat is 0.79, while the coefficient of variation for net income from producing Sunflower is 1.18. Which crop is considered less risky to produce? (4 pts.)
   a. Sunflower is less risky than Winter Wheat
   b. Winter Wheat is less risky than Sunflower
   c. There is not enough information to determine which crop is the least risky.

10. Assume that you are preparing a cash flow budget for the 2007 production season. Your first analysis shows that the total annual cash inflows are less than the total annual cash outflow, so there is a projected annual cash deficit. Which of the following would not improve your projected cash flow? (4 pts.)
    a. Reduce the annual depreciation expense by increasing the useful life of your machinery complement
    b. Sell additional stored grain produced in 2006
    c. Sell machinery that is not currently being used
    d. Arrange for interest only payments on your land note
11. The five general sources of risk and uncertainty are listed below. Please provide two examples for each source of risk and uncertainty:
   a. Production and Technological Risk (2 pts.)
   
   b. Price and Market Risk (2 pts.)
   
   c. Financial Risk (2 pts.)
   
   d. Legal Risk (2 pts.)
   
   e. Personal Risk (2 pts.)
   
12. Due to the current high corn and soybean prices and the potential for a wet spring, you want to evaluate the economic benefit/cost of purchasing a new, larger row crop planter for $25,000. You estimate that this new planter will allow you to plant the crop in less time (plant more acres per day with fewer break downs) and increase average crop yields. You have also already estimated the net cash flow for each year you plan to own and operate the new planter (see below). What is the Net Present Value for this purchase using a 9.5% discount factor? NOTE: Assume that the planter has zero salvage value to keep the analysis simple! See attached Table 4 for appropriate factors. (6 pts.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Cash Flow</th>
<th>Present Value Factor</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$3,850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>$4,620</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$5,970</td>
<td></td>
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<tr>
<td>4</td>
<td>$4,230</td>
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<tr>
<td>5</td>
<td>$7,740</td>
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<tr>
<td>6</td>
<td>$8,370</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$34,780</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Investment</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Net Present Value</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal Rate of Return (IRR)</td>
<td>9.0565</td>
</tr>
</tbody>
</table>
13. If the calculated net present value from an investment analysis, like the one in Question 12, was negative, this means: **(4 pts.)**
   a. This investment will create a negative cash flow
   b. The investor paid too much for the asset
   c. The estimated return from the asset is less than the discount factor
   d. The discount factor is too low

14. Assume that you plan to purchase the new row crop planter discussed in Question 12. You have talked with the machinery dealership and they have valued your old planter at $7,500, so you will need to finance the remaining $17,500 ($25,000 - $7,500). Your lender has agreed to finance the balance of $17,500 at 7.5% APR for 5 years, but wants to structure the annual loan payments to have equal principal payments plus interest. What would the annual principal, annual interest and total annual payments be for each year of the loan? **NOTE: The old planter has no loan payments remaining** **(10 pts.)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Loan Balance</th>
<th>Annual Principal Payment</th>
<th>Annual Interest Payment (7.5 % APR)</th>
<th>Annual Total Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$17,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td>4</td>
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<td>5</td>
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<td></td>
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</tr>
<tr>
<td>END</td>
<td>0</td>
<td>Total = $17,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. You also ask your loan officer if the loan in Question 14 can be structured to have *equal total annual payments*. The loan officer calculates the equal total annual payment to be $4,325.30 for a $17,500 loan at 7.5% APR for 5 years ($17,500 x 0.24716). If you choose this type of loan schedule, what will happen to the total amount of interest you will pay over the life of the loan? **(4 pts.)**
   a. The total amount of interest paid over the life of the loan will decrease
   b. The total amount of interest paid over the life of the loan will increase
   c. The total amount of interest paid over the life of the loan will not change

16. If you trade the old row crop planter for a new planter and finance the purchase using the payment schedule in Question 14, what will happen to the Intermediate Assets (or Non-Current Asset) section of your Net Worth Statement (or Balance Sheet)? **(4 pts.)**
   a. Intermediate Assets will increase
   b. Intermediate Assets will decrease
   c. Intermediate Assets will be unchanged
   d. We cannot determine what will happen to Intermediate Assets
17. If you trade the old row crop planter for a new planter and finance the purchase using the payment schedule in Question 14, what will happen to the Depreciation Expense on your Profit and Loss Statement (or Income Statement)? (4 pts.)
   a. Depreciation Expense will increase
   b. Depreciation Expense will decrease
   c. Depreciation Expense will be unchanged
   d. We cannot determine what will happen to the Depreciation Expense

18. If you trade the old row crop planter for a new planter and finance the purchase using the payment schedule in Question 14, what will happen to the Current Liabilities section of your Net Worth Statement (or Balance Sheet)? (4 pts.)
   a. Current Liabilities will increase
   b. Current Liabilities will decrease
   c. Current Liabilities will be unchanged
   d. We cannot determine what will happen to the Current Liabilities

19. A well designed loan repayment plan should match which of the following objectives? (4 pts.)
   a. The type of collateral used to secure the loan
   b. The borrower’s projected cash flow
   c. The borrower’s total assets
   d. The purpose of the loan (use of the funds)
   e. A, B and C
   f. A, B and D
   g. All of the above

20. Which of the following is not a source of loan funds? (4 pts.)
   a. Farm Service Agency (FSA)
   b. Commercial Banks
   c. Farm Credit System
   d. Life Insurance Companies
   e. All of these are sources of loan funds

You are considering renting an extra 160 acres of land for the 2007 production season and have three alternative production strategies; A) plant all the extra acres to corn, B) plant all the extra acres to soybeans, or C) plant half to corn and half to soybeans. However, this year’s cash rents are 60% higher than last year and you are concerned that fall prices may not be high enough to justify the increased rent payments. You have used a spreadsheet to prepare 12 different partial budgets which consider four different price conditions (low, average, high and superior) for each of the three different cropping plans (100% corn, 100% soybeans and 50% corn-50% soybeans). You have also assigned subjective probabilities to each of the four price conditions. This information is summarized in the table below. Please answer Questions 21-23 using the information in this table.
21. Which strategy would you select if you were using the Most Likely Outcome risk decision rule? (2 pts.)
   a. Strategy A: 100% Corn
   b. Strategy B: 100% Soybean
   c. Strategy C: 50% Corn – 50% Soybean
   d. None of the above

22. Which strategy would you select if you were using the Maximum Expected Value decision rule? (2 pts.)
   a. Strategy A: 100% Corn
   b. Strategy B: 100% Soybean
   c. Strategy C: 50% Corn – 50% Soybean
   d. None of the above

23. Which strategy would you select if you were using the Safety First risk decision rule? (2 pts.)
   a. Strategy A: 100% Corn
   b. Strategy B: 100% Soybean
   c. Strategy C: 50% Corn – 50% Soybean
   d. None of the above

Extra Credit: What is the definition of Internal Rate of Return (IRR)? (2 pts.)

Extra Credit: What are the components of a risk adjusted discount rate? (2 pts.)
   a. A risk premium
   b. Expected inflation rate
   c. Risk free real rate of return
   d. All of the above
   e. None of the above
Test #3 Key

1. e.
2. a.
3. d.
4. e.
5. b.
6. e.
7. e.
8. e.
9. b.
10. a.

11. Examples for sources of risk
   a. Production and Technological Risk
      i. Crop and livestock performance (yields, growth rates, live birth rates)
      ii. Input availability (desired genetics, fertilizer, new technology)
      iii. New technology may not perform as efficiently as advertised
   b. Price and Market Risk
      i. Input price variability
      ii. Output price variability
   c. Financial Risk
      i. Interest Rates
      ii. Changing loan requirements
   d. Legal Risk
      i. Food safety
      ii. Environmental policies
      iii. Farm policies
      iv. International trade agreements
   e. Personal Risk
      i. Health of farm manager
      ii. Injury of farm manager
      iii. Succession planning
      iv. Loss of key employee
12.

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Cash Flow</th>
<th>Present Value Factor</th>
<th>Present Value</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td><strong>$34,780</strong></td>
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<td><strong>$ 24,630.70</strong></td>
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</tbody>
</table>

Initial Investment ( $ 25,000.00)

Net Present Value ($ 369.30)

Internal Rate of Return (IRR) 9.0565

13. c.

14.

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Loan Balance</th>
<th>Annual Principal Payment</th>
<th>Annual Interest Payment (7.5 % APR)</th>
<th>Annual Total Payment</th>
</tr>
</thead>
<tbody>
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<td>$17,500</td>
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<td>$1,312.50</td>
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<td>$3,937.50</td>
<td>--------</td>
</tr>
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</table>

15. b.
16. a.
17. a.
18. a.
19. f.
20. e.
21. a.
22. a.
23. b.

**Extra Credit:** What is the definition of *Internal Rate of Return (IRR)*? (2 pts.)

The discount factor that results in a zero net present value.

**Extra Credit:** What are the components of a *risk adjusted discount rate*? (2 pts.)

d.