

Name _____

AREC 315
Fall 2005

Quiz #3 (Individual)
(100 Points)

Read each question carefully. Answer each question completely and concisely. Use the appropriate diagrams, graphs and/or equations when they are asked for or when they help you in answering the question. Show all your work (i.e. calculations) in order to receive full credit. Manage your time wisely.

- (15) 1. a. Using a partial budgeting framework, analyze the decision to adopt a single pass, multiple operation implement in cotton production if the investment adds \$30/acre in costs, \$10/acre in added returns, \$5/acre in reduced returns, and \$40/acre in reduced costs. Is it profitable to invest in the new implement?

(b) Many analysts remark that the partial budgeting tool has conceptual roots in economic theory. What do they mean?

(15) 2. Please use a graphical model to represent the following concepts. Then answer the question associated with each concept.

a. Economies of Scale (or Size)

What is one factor that can create diseconomies of size?

b. Inefficiency caused by waste

How does your diagram illustrate waste?

c. Inefficiency caused by misallocation

How does your diagram illustrate misallocation?

(15) 3. In the table provided below, please compare and contrast the three types of budgets using the noted evaluation criteria.

Evaluation Criteria	Operating Budget	Capital Budget	Cash Flow Budget
Purpose			
Structure			

(15 pts.) 4. a. Please complete the following cost table for a local business.

Total Output	Total Fixed Cost	Total Variable Cost	Total Cost	Average Total Cost	Marginal Cost
500	\$10,000	\$10,000			
					\$2.00
1,000		11,000			
1,400		13,000			
1,700		16,000			
1,900		20,000			
2,000		25,000			

- b. If the price of the output is \$25/unit, use the appropriate decision rule to determine the profit-maximizing level of output. Please give an intuitive explanation for why your answer is correct.

(15 pts.) 5. a. In the following example, find the profit-maximizing level of labor use using the appropriate marginal decision rule. Assume the wage rate is \$8 per hour and the price of the product is \$45/unit.

Use of Labor (Hours)	Marginal Physical Product		
16	.33		
20	.45		
22	.85		
26	.40		
32	.25		
40	.15		
50	.08		

b. Please give an intuitive explanation of why the chosen input level is the optimal level.

c. Without using the above data, draw a representative graphical model of this decision rule, illustrating the comparative static result if the productivity of labor increases holding all other factors constant.

(15 pts.) 6. Suppose a business firm wants to compete in a perfectly competitive market (i.e. the firm cannot influence product price) with a slightly new product. The production technology, and hence the cost relationships, are known by the firm but management is unsure about possible market prices. Management knows that different market prices could produce (a) an “abnormal” profit, (b) a break-even, normal profit, (c) a short-term loss, or (d) a shut down decision. Using the appropriate economic model, please illustrate in one graph the different optimal levels of output for this new product for each price scenario. Then briefly explain why scenario c is not sustainable in the long run and why stopping production is the cost minimizing decision in scenario d.

(10 Points) 7. Compare and contrast the liability issues surrounding three major forms of business organization: sole proprietorship, general partnership, and a general corporation.