

## Study Guide 2 – Economics 102

1. What is the difference between economic and normal profit?
2. What are the principal forms of business organizations? What do we mean by the principle - agency problem?
3. What do we mean by total product (or total physical product)? What do we mean by marginal and average product?
4. The relationships between Total Product and the Average and Marginal Products of the Variable Input (general case) are described below. Show using a diagram the relationships and understand why these relationships exist. In other words, show diagrammatically how we can derive the short-run cost functions from the short-run production functions.

When  $TP$  is at a maximum,  $MP_X = 0$ .

When the  $AP_X$  is increasing, then  $MP_X > AP_X$ .

When  $AP_X$  is at a maximum,  $MP_X = AP_X$ .

When the  $AP_X$  is declining, then  $MP_X < AP_X$ .

5. What are the various types of cost functions we encounter in microeconomics and what are their definitions?
6. What are the definitions of the short run and the long run?
7. What is the difference between implicit and explicit costs?
8. Be able to explain the different types of costs associated with the short-run and long-run. Why are the average cost functions U – shaped?
9. What do we mean by increasing returns to scale, constant returns to scale, and decreasing returns to scale? How does this affect the shape of the long-run average cost curve?
10. Why do we call the LRAC curve an envelope curve?
11. What are the conditions for profit maximization for a perfectly competitive firm? Be sure to be able to show this graphically and understand the areas of TR, TC, TVC, TFC and profit or loss.
12. What is the short-run supply curve for a perfectly competitive firm? How does this determine the market supply curve? When should a firm shut down in the short run?

- 13.** If firms in a perfectly competitive industry are making economic profits what will happen in the long run?
- 14.** Show how we can derive the long-run supply curve in a perfectly competitive industry if firms are subject to constant costs? Increasing costs or external diseconomies? Decreasing costs or external economies?
- 15.** In the long run a firm should build the optimum size plant. What do we mean by this statement?