I. Production

1. Does the concept of technological efficiency permit us to determine at which point on an isoquant a firm should operate? (5 pts)

2. The Los Angeles Lakers were the champions of the National Basketball Association during the 1999-2000 season. Two of the Lakers leading players, Shaquille O’Neal and Kobe Bryant, made 57% and 44% respectively, of the field goal shots they took on the way to capturing the championship. Given these different marginal products, wouldn’t the Lakers have done even better in terms of overall scoring had O’Neal taken more shots and Bryant fewer? (5 pts)

3. Nineteenth century British economist Thomas Malthus reasoned that because the amount of land is fixed, as population grows and more labor is applied to land, the productivity of labor in food production would decline, leading to widespread famine. This prediction is what led economics to be called the “dismal science.” Malthus’s prediction failed to come to pass as advances in technology, such as the Green Revolution, greatly increased labor productivity in food production. Do such technological advances contradict the law of diminishing marginal returns? Explain why or why not. (5 pts)

II. Cost of Production

4. Coldwell Banker is employing 10 acres of land and 50 tons of cement to produce 1,000 parking spaces. Land costs $4,000 per acre and cement costs $12/ton. For the input quantities employed, MP_L = 50 and MP_C = 4. Show this situation in an isoquant-isocost diagram. Explain, and show in the diagram, how Coldwell Banker can produce the same output at a lower total cost. (5 pts)
5. What is the significance of a tangency between an isoquant and isocost line? (5 pts)

III. Perfect Competition
6. State the short-run profit maximizing rule for a firm and explain why it ensures that profits are maximized. (5 pts)

7. State the condition under which a competitive firm will go out of business (i.e., shutdown) and explain why it will do so. (5 pts)

IV. Using the Competitive Model
8. Suppose that the low-skill job market is perfectly competitive and that the equilibrium wage and monthly output prevailing in the market, absent government interference, are $4.50 per hour and 1,000,000 hours, respectively. Assume that the demand and supply elasticity equal two and one, respectively. If the federal government mandates a minimum wage of $5.25 per hour, explain what happens to producer, consumer, and total surplus. Is there a deadweight loss associated with the minimum wage? Use graphs to support your arguments. (5 pts)

9. What is the relationship between the efficient level of output of a good and the size of total surplus achieved? Is total surplus greater if the output of the good is greater than the competitive output? (5 pts)
V. Monopoly

10. “Because a monopoly is the only source of supply, consumers are entirely at its mercy. There is no limit to the price the monopoly can charge.” Evaluate this statement. (5 pts)

11. Suppose that Apu is the single seller of gasoline in Springfield. Suppose that Mayor Quimby, outraged by the prices charged by this monopoly seller, imposes a price ceiling. Will the Apu’s output increase? Explain your answer, utilizing diagrams to support your claims. (5 pts)

12. Marin County Enterprises has a monopoly on the production of lunar-powered homes and has the normal U-shaped average cost curve. At its present profit-maximizing output and price, it is able to earn a positive economic profit. Show graphically, the effects in the product market (output, price, profit, and so on) of each of the following changes:

A). Lunar-powered homes become a nationwide fad. (5 pts)

B). The cost of labor (a variable factor of production) rises. (5 pts)

13. Return to the preceding question. If the Federal Alternative Power Commission can regulate the prices of lunar-powered homes and the promotion of efficiency is the commission’s goal, what price should it set? What will happen to the output and profit of Marin County Enterprises as a result? (5 pts)
VI. Product Pricing with Monopoly Power


B). How is it similar to price discrimination? (5 pts)

C). How is it distinguished from price discrimination? (5 pts)

15. How can Qwest, a supplier of local telephone service, determine the optimal two-part tariff if its customers have different (but known to the supplier) demand curves? Please illustrate your answer by using graphs as support. (5 pts)