Intermediate Microeconomics Study Guide

SECTION 1

Part I: Provide concise definitions. Usually an appropriate, well-labeled graph or mathematical relation is sufficient. (2 points each)

1. Marginal Utility:
2. Substitution Effect:
3. Indifference Curve:
4. Marginal Rate of Substitution:
5. Income Effect:
6. Consumer Equilibrium:

Part II: Make your answers clear, concise, and comprehensive. Usually an appropriate, well-labeled graph with a one or two sentence explanation is sufficient. Begin each problem (1, 2, 3,...etc.) on a new page. (4 points each for parts i, ii, iii, etc.)

1. i. Katherine has a budget of $180 for shoes and hats. If shoes cost $30 and hats cost $20 each, describe and sketch and thoroughly label her budget constraint. As usual, assume (infinite) divisibility of goods.
ii. Repeat part (i) if the price of hats increases to $30 a pair.
iii. Repeat part (i) if her budget decreases to $120.
iv. Repeat part (i) if the store restricts hat purchases to three per customer.

2. i. Provide a scenario (example) of an economic good that is a "bad." Pick a good that can be compared to your "bad." Sketch a representation of the indifference curves (map).
ii. Do these indifference curves follow the law of diminishing marginal rate of substitution? Explain.

3. Let y be a normal good and let x be an inferior good.
i. Sketch the income consumption curve (ICC), complete with a representative (likely) set of preferences (indifference curves /map).
ii. Sketch a representative Engel Curve for x.

Part III: Make your answers clear, concise, and comprehensive. Usually an appropriate, well-labeled graph with a one or two sentence explanation is sufficient. Begin each problem (1, 2, 3,...etc.) on a new page. (5 points each for parts i, ii, iii, etc.)

1. Given goods x and y, sketch the indifference curve for $u_o=16$ when:

i. $u(x,y) = x + \sqrt{y}$. ii. $u(x,y) = 2x + y$. iii. $u(x,y) = \min\{2x, y\}$.

iv, v, and vi. Next, given the budget constraint, $3x + y = 30$, explicitly determine the optimal bundles for each utility function in parts i, ii, and iii. Note, you may find it expedient to do i & iv together, and so on.

2. i. Regarding cell phone usage, sketch the budget constraint under (a) a pay as you go plan and (b) a plan in which you pay a flat fee, t, for x_o free minutes, then a per unit fee for every minute thereafter.
ii. Sketch the preferences an individual must have in order to suffer a loss in utility under plan b.
iii. Regarding school choice, assuming a public school tax equal to t, sketch the budget constraint when (a) there is also a private school choice for a minimum additional payment equal to t and (b) when there exist private school vouchers.
iv. Sketch the preferences an individual must have if they choose the public school option before and after the voucher system is implemented.

3. Given income, M, and goods, x and y, illustrate the substitution and income effects after the price of x falls when preferences are:
i. Cobb-Douglas ('typical').
ii. Leontief (perfect complements).