

Study Guide – Economics 101

1. Understand and be able to explain fully the model of Supply and Demand. Use this model to explain various markets such as the oil market, automobile market or other markets. Understand the effect of price ceilings and floors.
2. What do we mean by the inverse demand or supply function?
3. If you are given supply and demand functions, be able to solve for equilibrium.
4. How do we add demand or supply functions?
5. What do we mean by a stable versus unstable equilibrium? Show diagrammatically.
6. What is the concept of price, income, and cross-price elasticity of demand?
7. In discussing elasticity, what do we mean by normal, inferior, complements, substitutes?
8. What is the relationship between Total Revenue, Marginal Revenue and the value of elasticity?
9. If the demand curve is of the form $Q_d = c - dP$ what is the slope of the marginal revenue function? What is the value of elasticity when TR is maximized? What are the first and second order conditions for maximization?
10. Be able to explain and understand the various types of elasticities. Be able to calculate the elasticity values for equations such as:

$$Q_d = c - dP \quad Q_d = c - dP + eI + fPy \quad Q_s = aP^b \quad \ln Q_d = \ln 0.5 - 2\ln P$$

11. If a tax is imposed on a good how does elasticity of supply and demand affect who pays the tax? Show graphically.
12. What assumptions do we make about people's behavior in developing our model of utility?
13. What do we mean by diminishing, increasing and constant marginal utility? Be able to prove mathematically.
14. Make up some utility functions and show examples of diminishing, increasing and constant MU's of the variables.
15. What would be an example of a utility function for complements and substitutes.

16. Be able to derive the slope of both the indifference curve and budget line.
17. Construct a budget line and show what happens if a) Income increases? b) Price of X goes up? c) Price of Y goes down?
18. What are the conditions for utility maximization? Show using both a graph and mathematics – that is, Lagrangian method.
19. Make up some utility functions and construct several examples of utility maximization. Feel free to refer to the notes and change the numbers.
20. Derive a price consumption curve for a good for an elastic, inelastic and unitary elastic good.
21. Derive an income consumption curve for two goods that are normal. Derive an income consumption curve for two goods in which one is inferior.
22. Suppose $U = X^\alpha Y^\beta$ a) Find utility maximizing choice with prices, P_x and P_y income I ; b) Derive the own price elasticity for X and Y. c) Derive the income and cross price elasticities of demand.
23. Suppose $U = (\min Y, \min Z)$. If Income is 100 and $P_Y = 1$ and $P_Z = 3$, solve for the amount of Y and Z consumed?
24. Explain in layman's terms (that is, to someone not familiar with economics) the income and substitution effects.
25. Show the income and substitution effects using both the Hick's and Slutsky method.
26. What is the difference between the Hicksian and Marshallian demand curves?
27. What do we mean by the intertemporal choice model? Be able to show how it is derived and the choice of borrowing and saving.
28. Be able to explain the backward bending supply curve of labor.
29. Show the effect of a per unit subsidy to food on an individual's choice for food. If the consumer is given an income transfer will the effect be different? Explain.
30. Understand the Edgeworth Box.

Everything Else