

1. Explain and compare the terms (20%), (5% each)
  - A. Vertical equity vs. Horizontal equity
  - B. Opportunity cost vs. Sunk cost
  - C. Money neutrality vs. Classical dichotomy
  - D. Inflation vs. Stagflation
2. (15%) The demand for cigarettes is given by  $Q^C = 16 - 2P^C + P^B$ , where  $P^C$  and  $P^B$  denote the price of cigarettes and the price of beer, respectively. Determine whether cigarettes and beer are complements, substitutes, or neither? What is the own price elasticity and cross-price elasticity of cigarettes and beer when  $P^C = 4$  and  $P^B = 2$ ? Using your results from above, determine the effect of a 20 percent increase in  $P^C$  and a 10 percent decrease in  $P^B$  on the demand for cigarettes? Verify your answer by directly substituting the new prices into the demand function.
3. (15%) A monopolist serves an aggregate market with a demand function given by  $q = 36 - 2P$ . This market can be partitioned into submarkets 1 and 2 with submarket demand functions given by  $q_1 = 16 - 1/2P_1$  and  $q_2 = 20 - 3/2P_1$ . Marginal cost is constant and equal to 4. Determine the profit-maximizing monopolist's uniform aggregate price? What prices will the monopolist set if he decides to price discriminate? Comment on the following statement and provide an economic rationale for your answer: Price discrimination always hurts consumers?
4. (15%) Draw the diagrams showing the relationship between short run average cost curve (SAC), long run average cost curve (LAC), short run marginal cost curve (SMC), and Long run marginal cost curve (LMC). What is the theory behind?
5. (20%) What is the production function for the growth model? What is the Solow Growth model? Using the following notation: the savings rate,  $s$ , the population growth rate,  $n$ , the depreciation rate,  $\sigma$ , and the rate of technical change,  $\theta$ , and write down the equation, draw the graph and describe how to get the equilibrium of growth and how to reach the golden rule of consumption.
6. (15%) Our legislators want to put a ceiling on the interest rate of credit card. Discuss the reason and result of this action if the law is enforced.