

MICROECONOMICS**Section II****Total Time—60 minutes****Reading Period—10 minutes****Writing Period—50 minutes**

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Corn is used as food and as an input in the production of ethanol, an alternative fuel. Assume corn is produced in a perfectly competitive market.
 - (a) Draw correctly labeled side-by-side graphs for the corn market and a representative corn farmer. On your graphs show each of the following.
 - (i) The equilibrium price and quantity in the corn market, labeled P_M and Q_M , respectively
 - (ii) The profit-maximizing quantity of corn produced by the representative farmer earning zero economic profit, labeled Q_F
 - (b) Assume the demand for ethanol increases. On your graphs in part (a) show what will happen to each of the following in the short run.
 - (i) The market price and quantity of corn, labeled P^* and Q^*
 - (ii) The area of the profit or loss earned by the representative corn farmer, shaded completely
 - (c) Relative to your answer in part (b), state what will happen to the market equilibrium price and quantity of corn in the long run. Explain.
 - (d) Soybeans are produced in a perfectly competitive market. Assume farmers can grow either corn or soybeans on the same land. What happens to the price of soybeans in the next planting season if the price of corn increases? Explain.
 - (e) Assume instead that the government sets a binding price ceiling in the corn market. Draw a new correctly labeled graph for the corn market and show each of the following.
 - (i) The binding price ceiling, labeled P_c
 - (ii) The quantity purchased by consumers in the corn market, labeled Q_p