Econ 393 Quiz 2

Instructions: You need paper (lined if possible) and a pen or a pencil to write this quiz. You may answer the questions in any order you like. You should start each question on a new page. You must write your answers; typed answers will not be accepted. When you are finished answering the questions, please order the pages so your answers to question 1 are first, and then your answers to question 2. Then, in a single email message, send an image of each page to me at jburbidg@uwaterloo.ca. Please put Econ 393, your name and your id number in the subject line of your email. The deadline for submitting your answers is 6:00 pm Tuesday May 26th, Toronto time. The marks allocated to each question are shown in brackets.

1. (two marks for each part) Consider a world with two goods, 1, 2, many type As, and an equal number of type Bs. Write the endowments of each A as \((e^A_1, e^A_2)\) and each B as \((e_1 - e^A_1, e_2 - e^A_2)\), where the total endowments for an A, B pair are \((e_1, e_2)\). Assume everyone has the utility function \(u(x_1, x_2) = x_1 x_2\); and the endowment point is BELOW the diagonal of the Edgeworth rectangle (good 1 is on the horizontal axis).

   (i) Prove that, in this setting, the Pareto efficient allocations lie along the diagonal of the Edgeworth rectangle.

   (ii) Derive the equation for B’s offer curve.

   (iii) In the competitive equilibrium which good are the As selling and which good are they buying? Describe how you would find the equilibrium in which the As have a monopoly in the good they are selling.

2. The Hamilton Tiger Cats have a football stadium that can seat 30,000 people. For a regular home game the club maximizes profits by charging 30 dollars per ticket and selling 18 thousand tickets. Assume all seats are equally desirable, the marginal cost of seating another fan at the game is zero and the market demand for tickets sold in Hamilton is linear.

   (i) (4 marks) What is the equation for the market demand for tickets to a Tiger Cat game?

   (ii) (6 marks) Suppose the Tiger Cats have a playoff game at home against the Montreal Alouettes next November. Further, assume the market demand in Hamilton is the same for playoff game as it is for a regular season game, the Tiger Cats can sell an unlimited number of seats in Montreal at 30 dollars per seat, and tickets purchased in Montreal cannot be resold in Hamilton. To maximize Tiger Cat profits: how many tickets should be sold in Hamilton, how many tickets should be sold in Montreal, and what price should be charged to fans in Hamilton?