Advanced Microeconomics, Part II (Uwe Jirjahn)

Summer Semester 2016

Instructions: Choose **two** questions out of the three questions Q1, Q2 and Q 3.

Q.1 Player 1 and player 2 bargain over sharing 1000 dollars. The asymmetric Nash product is: $\Omega = (x_1 - 150)^{0.75}(x_2 - 50)^{0.25}$. Find the Nash bargaining solution.

Q.2 Two firms (i = 1, 2) produce differentiated products. The demand function for the product of firm i is given by: $q_i(p_i, p_j) = 100 - p_i + \frac{2}{3}p_j$, where p_i is the price chosen by firm i and p_j the price chosen simultaneously by its competitor. The cost function of each firm is $C_i(q_i) = 20q_i$.

Q.2.a Find the equilibrium prices.
Q.2.b Calculate each firm's equilibrium profit.

Q.3 Consider the following normal-form game:

Player 2 Player 1	A	B
C	4, 2	0, 0
D	0, 0	2, 4

Q.3.a Identify the pure-strategy Nash equilibria.
Q.3.b Identify the mixed-strategy Nash equilibria.
Q.3.c Calculate each player's expected equilibrium payoff.

Note: If you answer all questions, we will only consider Q.1 and Q.2.