ECON 173 - Intermediate Microeconomic Analysis
Drake University, Fall 2012
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FINAL EXAMINATION ANSWER KEY

Version A

I. MULTIPLE CHOICE

(1)d. (2)d. (3)e. (4)c. (5)a. (6)d. (7)a. (8)a. (9)c. (10)c.
(11)b. (12)a. (13)d. (14)c. (15)c. (16)e. (17)b. (18)e. (19)b. (20)d.

II. SHORT ANSWER

(1) a. -3% b. +2%.
(2) a. 3.0% b. 0.5%.
(3) a. \$40 b. \$25.

III. PROBLEMS

(1) a. MRSC = $\frac{q_1}{2(q_2-2)}$. b. $q_1^* = \frac{2I}{3p_1} - \frac{4p_2}{3p_1}$. c. $q_2^* = \frac{I}{3p_2} + \frac{4}{3}$.

(2) a. $60 = 5\,(x_1^{-1} + x_2^{-1})^{-1}$. b. MRSP = $\frac{x_1^2}{x_2^2}$. c. $x_1^* = 30$, $x_2^* = 20$.
d. TC(60) = 30·4 + 20·9 = \$300.

(3) a. 100 units. b. \$10. c. 80 units.
d. \$12. e. \$9. f. \$30.

(4) First find $MRSC_J = \frac{2q_1}{q_2}$ and $MRSC_K = \frac{q_1}{2q_2}$.
a. Allocation A, at the corner of the Edgeworth box, is Pareto efficient. One cannot make Jacob better off without taking cheese or crackers away from Kate, which would make Kate worse off.
b. Allocation B is Pareto efficient because $MRSC_J = MRSC_K$.
c. Allocation C is not Pareto efficient because $MRSC_J \neq MRSC_K$.
d. Allocation D is not Pareto efficient because $MRSC_J \neq MRSC_K$.
e. Allocation E, at the corner of the Edgeworth box, is Pareto efficient. One cannot make Kate better off without taking cheese or crackers away from Jacob, which would make Jacob worse off.
f. Curve should pass through allocations A, B, and E, but not C or D.

(5) a. $MC_J = 3$. b. MR = 15 – (Q/50). c. Q* = 600, P* = \$9.
d. Profit = \$3600. e. Deadweight loss = \$1800.

IV. ESSAY

- Should consider both the case when world price is greater than the domestic price, and the case when the world price is less than the domestic price.
- Should discuss and graph exports or imports, the changes in consumer and producer surplus, and the net gain in social welfare for each case.
- Should conclude by rejecting the claim. In both cases there is a net gain in social welfare from international trade because gains to winners are greater than losses to losers.

Version B

I. MULTIPLE CHOICE

(1)b. (2)a. (3)a. (4)d. (5)b. (6)a. (7)d. (8)b. (9)d. (10)d.
(11)a. (12)b. (13)c. (14)b. (15)a. (16)b. (17)d. (18)c. (19)a. (20)e.

II. SHORT ANSWER

(1) a. -6% b. -1%.
(2) a. 1.8% b. 0.2%.
(3) a. \$30 b. \$24.

III. PROBLEMS

(1) a. MRSC = $\frac{2(q_1+5)}{q_2}$. b. $q_1^* = \frac{I}{3p_1} - \frac{10}{3}$. c. $q_2^* = \frac{2I}{3p_2} + \frac{10p_1}{3p_2}$.

(2) a. $81 = 5\,(x_1^{1/2} + x_2^{1/2})^2$. b. MRSP = $\frac{x_1^{1/2}}{x_2^{1/2}}$. c. $x_1^* = 16$, $x_2^* = 25$.
d. $TC(81) = 16 \cdot 10 + 25 \cdot 8 = \$360$.

(3) a. 80 units. b. \$8. c. 60 units.
d. \$10. e. \$7. f. \$30.

(4) First find $MRSC_J = \frac{q_1}{2q_2}$ and $MRSC_K = \frac{2q_1}{q_2}$.
a. Allocation A, at the corner of the Edgeworth box, is Pareto efficient. One cannot make Jacob better off without taking cheese or crackers away from Kate, which would make Kate worse off.
b. Allocation B is not Pareto efficient because $MRSC_J \neq MRSC_K$.
c. Allocation C is not Pareto efficient because $MRSC_J \neq MRSC_K$.
d. Allocation D is Pareto efficient because $MRSC_J = MRSC_K$.
e. Allocation E, at the corner of the Edgeworth box, is Pareto efficient. One cannot make Kate better off without taking cheese or crackers away from Jacob, which would make Jacob worse off.
f. Curve should pass through allocations A, D, and E, but not B or C.

(5) a. $MC_J = 14$. b. $MR = 10 - (Q/50)$. c. $Q^* = 300$, $P^* = \$7$.
d. Profit = \$900. e. Deadweight loss = \$450.

IV. ESSAY (Same as Version A.)

[end of answer key]