EC101 Midterm 2 F2015

INSTRUCTIONS (**Read Carefully**):

**ON YOUR QUESTION BOOKLET:**
Fill in your name, Student ID, Discussion Section Number (e.g. D5) and your signature.

**ON YOUR SCANTRON:**
Enter the Course Number (EC101 DD or EE) and date on the lines at the top-left. In the boxes below, enter your Student ID, your DISCUSSION SECTION number (D1 - D9, E0 - E9), your NAME and your EXAM VERSION into the Scantron computer sheet. Be sure that you “bubble” all entries. I will subtract up to 5 points as punishment for errors in these data!

**DURING THE EXAM:**
Students who wish to leave the room for any reason must leave the Question Booklet and Scantron sheet with the instructor or teaching fellow. Students in EC101DD **MUST** turn in both the Question Booklet and the Scantron sheet at the end of the exam and exit from the front of the room. Students in EC101EE should keep their Question Booklet and turn in only their Scantrons. All students must show their BU Student IDs as they leave the exam room.

**MULTIPLE-CHOICE QUESTIONS:**
Choose the **BEST** answer for each of the multiple-choice questions. (Only ONE answer is allowed, even when more than one of the answers is technically correct.) On the Question Booklet, CIRCLE the letter that you chose, so that you have a record of your answers. Then BUBBLE it on the Scantron sheet for grading.

Never cross out an answer on your Scantron. Use a pencil to bubble your answers, and keep a good eraser with you. If you bubble the wrong answer on the Scantron, erase your mark COMPLETELY, and then bubble the correct answer.

***YOU MAY NOT USE A CALCULATOR, CELL PHONE OR LAPTOP.***

***However, INTERNATIONAL STUDENTS may use electronic translators or dictionaries.***

You have 60 minutes to complete the exam. Good luck!

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**DO NOT OPEN THIS BOOKLET OR TURN IT OVER**

[until told to do so]
1. **See Figure NEX.** Without any government regulation, how much plastic would be produced?
   a. 650
   b. 200
   c. 900
   d. 500

2. **See Figure NEX.** What quantity of plastics maximizes social surplus?
   a. 500
   b. 450
   c. 200
   d. 650

3. **See Figure NEX.** What level of excise tax would maximize social surplus?
   a. $2.00
   b. $1.50
   c. $0.50
   d. 0 [Any tax will reduce surplus.]

4. If all fixed costs are sunk, then
   a. marginal cost is constant.
   b. the firm will go out of business.
   c. the firm is operating in the short run.
   d. the quantity supplied will be reduced.

5. One reason that nonprice rationing often creates losses of surplus is because
   a. governments tend to waste tax revenues.
   b. the wrong people get the goods.
   c. the market-equilibrium price goes up.
   d. equity is decreased.

6. A competitive market allocates resources efficiently when
   a. there are negative externalities, but not when there are positive externalities.
   b. there are positive externalities, but not when there are negative externalities.
   c. the buyers and sellers are not affected by externalities.
   d. the buyers and sellers are the only people affected by the transaction.

7. Taxes can be useful tools of government policy, because
   a. taxes can increase social surplus when there are negative externalities.
   b. taxes allow governments to supply public goods and services like education and police protection.
   c. taxes can be used to increase equity even when they reduce social surplus.
   d. **ALL** of the above

8. Sophie works 20 hours per week at the BU Bookstore and earns $9.00 per hour. Her boss decides to raise her wage to $18.00 per hour. Then, Judy says to herself, “Great, now I can work more and make lots of money.” This implies that
   a. she does not want to ‘buy’ more leisure as she becomes richer.
   b. her demand curve for leisure is not downward sloping.
   c. the income effect on her demand for leisure is stronger than the substitution effect.
   d. the substitution effect on her demand for leisure is stronger than the income effect.

9. In connection with pollution, social surplus is maximized if
   a. if as much pollution is prevented as technology allows.
   b. the cost of abatement is minimized.
   c. if the benefit of pollution abatement is maximized.
   d. **NONE** of the above

10. Why does a firm in a perfectly competitive industry want to charge the market price?
    a. The firm can sell as many units of output as it wants to at the market price.
    b. If a firm charges more than the market price, it loses all its customers to other firms.
    c. If a firm charges less than the market price, it loses potential revenue.
    d. **ALL** of the above are correct.
11. Economic efficiency may not be compatible with equity, because
   a. marginal costs are increasing in the great majority of firms.
   b. governments tend to regulate competitive markets when prices are too high.
   c. rich people tend to work harder than poor people.
   d. the incentives required for efficiency may make some people rich and leave others poor.

12. In a perfectly competitive equilibrium, the demand for the product of a single firm
   a. is unit elastic.
   b. is vertical.
   c. depends on the elasticity of the market demand.
   d. is perfectly elastic.

13. Suppose a tax of $1 per unit is imposed on a good. Then the more elastic is the supply of the good,
   a. the larger is the tax burden on sellers relative to the tax burden on buyers.
   b. the larger is the deadweight loss of the tax.
   c. the smaller is the response of quantity supplied to the tax.
   d. ALL of the above are correct.

14. Suppose in a perfectly competitive market, firms increase production past the market-equilibrium output. Then social surplus decreases because
   a. producers’ profits fall.
   b. consumers won’t buy the excess goods.
   c. consumers will buy more than they can use.
   d. marginal cost is greater than willingness to pay.

15. Which of the following is true about the willingness-to-pay (WTP) for a good?
   a. WTP is likely to underestimate the utility a poor person would get from the good.
   b. WTP must be less than the price of the good.
   c. WTP is equal to consumer surplus.
   d. In perfect competition, WTP can be derived from the supply curve.

16. Which of the following is an example of a positive externality?
   a. Mary couldn’t catch the flu from Sue, because Sue was vaccinated.
   b. Sue caught the flu, because Sue wasn’t vaccinated.
   c. Sue didn’t catch the flu, because Sue was vaccinated.
   d. Mary caught the flu from Sue, because Mary wasn’t vaccinated.

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**Table STX.** The table below displays the willingness to pay of each consumer for his first three oranges (no one wants to eat more than three). Alex, Barb, and Carlos are the only buyers of oranges.

<table>
<thead>
<tr>
<th></th>
<th>1st Orange</th>
<th>2nd Orange</th>
<th>3rd Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex</td>
<td>$2.00</td>
<td>$1.50</td>
<td>$0.75</td>
</tr>
<tr>
<td>Barb</td>
<td>$1.50</td>
<td>$1.00</td>
<td>$0.80</td>
</tr>
<tr>
<td>Carlos</td>
<td>$0.75</td>
<td>$0.25</td>
<td>$0</td>
</tr>
</tbody>
</table>

17. **See Table STX.** If the market price of an orange is $1.20, consumer surplus amounts to
   a. $5.00.
   b. $1.10.
   c. $0.70.
   d. $1.40.

18. **See Table STX.** The market quantity demanded of oranges is exactly 5 if the price of an orange $P$ satisfies
   a. $0.80 < P < $1.00.
   b. $0.75 < P < $0.80.
   c. $1.00 < P < $1.50.
   d. $0.80 < P < $1.50.

19. Which of the following is a variable cost of producing physical copies of the Hubbard/O’Brien textbook?
   a. the cost of writing the book
   b. the cost of graphic design
   c. the cost of customer service
   d. the cost of editing

20. Suppose winter comes early in California and reduces the size of the lemon crop. What happens to consumer surplus in the market for lemons?
   a. Consumer surplus increases.
   b. It depends on whether the elasticity of demand is more or less than 1.
   c. Consumer surplus is not affected by this change in market forces.
   d. Consumer surplus decreases.

21. Private negotiation is most likely to solve problems created by pollution when there are
   a. high taxes on each unit of pollution.
   b. people who suffer from the pollution around the world.
   c. a small number of people who produce the pollution and who suffer from it.
   d. laws that prohibit the pollution.
Figure IFM. Suppose $S$ represents the market supply curve of domestic producers in the US. After imports are allowed, foreign producers shift the market supply to $S'$. The line $D$ is US market demand. [Hint: the area of a triangle = base x height / 2.]

22. **See Figure IFM.** Before the foreign producers enter, the surplus of US consumers is_________.
   a. $20
   b. $80
   c. $45
   d. $10

23. **See Figure IFM.** After the foreign producers enter, surplus of US consumers is_________.
   a. $20
   b. $80
   c. $45
   d. $10

24. **See Figure IFM.** The positions of the supply curves $S$ and $S'$ imply that some of the foreign firms ______ than any of the domestic firms.
   a. have lower costs
   b. charge higher prices
   c. are larger
   d. are less competitive

25. **See Figure IFM.** After the foreign producers enter, the producer surplus of domestic producers
   a. decreases by $15.
   b. increases by $5.
   c. decreases by $5.
   d. increases by $15.

26. Removing price ceilings tends to
   a. create a Pareto improvement.
   b. reduce profits.
   c. increase consumer surplus.
   d. increase the quantity supplied.

27. Suppose firms in a competitive market have no fixed costs and increasing marginal costs. Then, the marginal cost of unit 29 is
   a. the area under the supply curve.
   b. the area between the supply curve and the price.
   c. the height of the supply curve at unit 29.
   d. equal to the price.

Figure BRL. The Market for Gasoline. Suppose the supply of gasoline shifts from $S1$ to $S3$, and the government applies a price ceiling at $P2$.

28. **See Figure BRL.** When the supply shifts and the price ceiling is applied,
   a. the market price will stay at $P1$.
   b. a shortage will occur at the new market price of $P2$.
   c. a surplus will occur at the new market price of $P2$.
   d. the market price will increase to $P3$.

29. **See Figure BRL.** When the supply shifts and the price ceiling is applied, the quantity of gasoline that will be bought and sold is
   a. at least $Q1$.
   b. between $Q1$ and $Q3$.
   c. $Q3$.
   d. less than $Q3$.

30. **See Figure BRL.** Suppose the supply shifts back from $S3$ to $S1$, but the price ceiling remains in place. Then,
   a. the price ceiling will cause a larger deadweight loss than before.
   b. the price will remain at $P2$.
   c. the quantity bought and sold will decrease.
   d. the price ceiling will no longer affect the price.
31. Kansas and Iowa grow corn and wheat. Kansas has a comparative advantage in growing corn over Iowa if
a. the weather in Kansas is more suitable for growing corn than the weather in Iowa.
b. Kansas has to give up less wheat than Iowa does in order to grow another ton of corn.
c. the value of resources needed to grow a ton of corn is lower in Kansas than in Iowa.
d. Kansas needs less land to grow a ton of corn than Iowa does.

Figure BOS. Suppose the government imposes a $10 per unit tax on a good. [Hint: the area of a triangle = base \times height / 2.]

32. See Figure BOS. The tax causes consumer surplus to decrease by
a. $144.
b. $36.
c. $216.
d. $108.

33. See Figure BOS. The government collects ______ as tax revenue.
   a. $60.
b. $96.
c. $144.
d. $120.

34. See Figure BOS. The tax will
   a. reduce producer surplus by $72.
b. create a deadweight loss of $180.
c. reduce consumer surplus by $24.
d. ALL of the above

35. When profit-maximizing firms in competitive markets are earning profits,
a. market supply must exceed market demand at the market equilibrium price.
b. market demand must exceed market supply at the market equilibrium price.
c. the most inefficient firms will be encouraged to leave the market.
d. new firms will enter the market.

36. The equilibrium price and quantity in a perfectly competitive market maximize
a. social surplus from that market.
b. output of goods or services in that market.
c. both equity and efficiency in that market.
d. the quantity demanded from that market.

37. If demand is perfectly price inelastic and an excise tax is imposed, then
   a. the tax burden falls entirely on the seller.
b. the tax burden is shared between buyer and seller.
c. the tax burden falls entirely on the buyer.
d. the tax incidence will depend on the legal assignment of duty to pay.
e. deadweight loss will be infinite.

38. The marginal cost (MC) of producing a unit is
   a. the opportunity cost of producing the unit.
b. less than the MC of the previous unit.
c. greater than the MC of the previous unit.
d. the same as the MC of the previous unit if the units are identical.

Scenario MRZ. Suppose Firm XYZ produces in a perfectly competitive market and has the following marginal costs: for each unit from 1 to 100, MC = $20, and for each unit from 101 to 1000, MC = $30.

39. See Scenario MRZ. If the market price is $25, then the firm will produce ______ units and get a producer surplus of ______.
   a. 100, $500
   b. 1000, $5000
   c. 0, 0
   d. UNDEFINED, because price doesn’t equal marginal cost

40. See Scenario MRZ. If the market price is $15 then Firm XYZ will
   a. produce zero.
b. produce 100 units and raise its price to $20.
c. continue to produce until price equals marginal cost.
d. NONE of the above