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!

*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. 500
   b. 650
   c. 200
   d. 900

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

3. See Figure NEX. What level of excise tax would maximize social surplus?
   a. $2.00
   b. $1.50
   c. $ .50
   d. 0 [Any tax will reduce surplus.]

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

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

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

7. Taxes can be useful tools of government policy, because
   a. taxes can be used to increase equity even when they reduce social surplus.
   b. taxes allow governments to supply public goods and services like education and police protection.
   c. taxes can increase social surplus when there are negative externalities.
   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. the substitution effect on her demand for leisure is stronger than the income effect.
   b. she does not want to ‘buy’ more leisure as she becomes richer.
   c. the income effect on her demand for leisure is stronger than the substitution effect.
   d. her demand curve for leisure is not downward sloping.

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

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

12. In a perfectly competitive equilibrium, the demand for the product of a single firm
   a. depends on the elasticity of the market demand.
   b. is vertical.
   c. is unit elastic.
   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 deadweight loss of the tax.
   b. the smaller is the response of quantity supplied to the tax.
   c. the larger is the tax burden on sellers relative to the tax burden on buyers.
   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. consumers will buy more than they can use.
   b. consumers won’t buy the excess goods.
   c. marginal cost is greater than willingness to pay.
   d. producers’ profits fall.

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

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

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 of oranges demanded is exactly 5 if the price of an orange $P$
    satisfies
   a. $0.75 < P < 0.80.
   b. $0.80 < P < 1.00.
   c. $0.80 < P < 1.50.
   d. $1.00 < 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 customer service
   b. the cost of editing
   c. the cost of writing the book
   d. the cost of graphic design

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. It depends on whether the elasticity of demand is more or less than 1.
   b. Consumer surplus decreases.
   c. Consumer surplus increases.
   d. Consumer surplus is not affected by this change in market forces.

21. Private negotiation is most likely to solve problems created by pollution when there are
   a. high taxes on each unit of pollution.
   b. a small number of people who produce the pollution and who suffer from it.
   c. laws that prohibit the pollution.
   d. people who suffer from the pollution around the world.

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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>

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**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 = \( \text{base} \times \text{height} / 2 \).]

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

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

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. are less competitive  
   c. are larger  
   d. charge higher prices

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

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

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

**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 surplus will occur at the new market price of \( P2 \).  
   c. the market price will increase to \( P3 \).  
   d. a shortage will occur at the new market price of \( P2 \).

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. less than \( Q3 \).  
   b. at least \( Q1 \).  
   c. between \( Q1 \) and \( Q3 \).  
   d. \( Q3 \).

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

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

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

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

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

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

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

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

38. The marginal cost (MC) of producing a unit is
    a. the opportunity cost of producing the unit.
    b. greater than the MC of the previous unit.
    c. less than the MC of the previous unit.
    d. **ALL** of the above

**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. continue to produce until price equals marginal cost.
    b. produce 100 units and raise its price to $20.
    c. produce zero.
    d. **NONE** of the above