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!
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 \times height / 2.]

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

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

3. 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. charge higher prices
   b. have lower costs
   c. are larger
   d. are less competitive

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

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

6. 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.

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

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

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.

9. 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. 0, 0
   c. 1000, $5000
   d. UNDEFINED, because price doesn’t equal marginal cost

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

11. The equilibrium price and quantity in a perfectly competitive market maximize
    a. social surplus from that market.
    b. both equity and efficiency in that market.
    c. output of goods or services in that market.
    d. the quantity demanded from that market.
12. Suppose in a perfectly competitive market, firms increase production past the market-equilibrium output. Then social surplus decreases because
   a. producers’ profits fall.
   b. marginal cost is greater than willingness to pay.
   c. consumers won’t buy the excess goods.
   d. consumers will buy more than they can use.

13. 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 unit elastic.
   c. is vertical.
   d. is perfectly elastic.

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

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

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

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

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

19. 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. between Q1 and Q3.
   c. at least Q1.
   d. Q3.

20. 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 no longer affect the price.
   b. the quantity bought and sold will decrease.
   c. the price will remain at P2.
   d. the price ceiling will cause a larger deadweight loss than before.

21. 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.
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>

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

23. 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 < $1.50.
c. $1.00 < P < $1.50.
d. $0.80 < P < $1.00.

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

25. 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 customer service
c. the cost of graphic design
d. the cost of editing

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

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

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

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

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

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

31. See Figure BOS. The tax will
a. create a deadweight loss of $180.
b. reduce consumer surplus by $24.
c. reduce producer surplus by $72.
d. ALL of the above
32. 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. marginal costs are increasing in the great majority of firms.
   c. rich people tend to work harder than poor people.
   d. governments tend to regulate competitive markets when prices are too high.

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

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

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

36. 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 income effect on her demand for leisure is stronger than the substitution effect.
   b. the substitution effect on her demand for leisure is stronger than the income effect.
   c. she does not want to “buy” more leisure as she becomes richer.
   d. her demand curve for leisure is not downward sloping.

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**Figure NEX.** The Market For Plastics

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P

Social Cost

Private Cost

Demand

200 500 650 Q
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37. See Figure NEX. Without any government regulation, how much plastic would be produced?
   a. 200
   b. 900
   c. 500
   d. 650

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

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

40. Kansas and Iowa grow corn and wheat. Kansas has a comparative advantage in growing corn over Iowa if
   a. Kansas needs less land to grow a ton of corn than Iowa does.
   b. Kansas has to give up less wheat than Iowa does in order to grow another ton of corn.
   c. the weather in Kansas is more suitable for growing corn than the weather in Iowa.
   d. the value of resources needed to grow a ton of corn is lower in Kansas than in Iowa.