EC101 DD/EE                 Midterm 2                November 5, 2019                     Version 02

Name (last, first): |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Student ID: |U|__|__|__|__|__|__|__|__|      Discussion Section: |__|__|

Signature____________________________________

EC101 DD/EE F19 Midterm 2

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 (fill in the small circles). 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 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. If you know Kewei’s willingness to pay for different quantities of apples, but you have no information about the apple market, then you can
   a. construct his demand curve for apples.
   b. calculate the number of apples he will buy.
   c. determine the price of apples.
   d. **NONE** of the above

2. A tax on gasoline would usually
   a. reduce road congestion because the tax raises the social cost of driving.
   b. increase road congestion because gasoline is an inferior good.
   c. reduce road congestion because the tax raises the private cost of driving.
   d. reduce road congestion because gasoline is a normal good.

3. See Table PSM. Each of the following sellers can produce one fancy dress at the cost listed below. The market price of a fancy dress is $1,100.

<table>
<thead>
<tr>
<th>Seller</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abby</td>
<td>$1,500</td>
</tr>
<tr>
<td>Bobby</td>
<td>$1,200</td>
</tr>
<tr>
<td>Carlos</td>
<td>$1,000</td>
</tr>
<tr>
<td>Dianne</td>
<td>$750</td>
</tr>
<tr>
<td>Evalina</td>
<td>$500</td>
</tr>
</tbody>
</table>

3. **See Table PSM.** The combined total cost of all participating sellers is
   a. $1,250.
   b. $3,700.
   c. $2,700.
   d. $2,250.

4. **See Table PSM.** Producer surplus in the market is
   a. $1,050.
   b. $950.
   c. $3,700.
   d. $2,250.

5. When the labor supply is extremely inelastic, a tax on labor
   a. has a large deadweight loss.
   b. would be paid mainly by employers.
   c. raises a small amount of tax revenue.
   d. has a small impact on the amount of work that workers are willing to do.

6. International trade
   a. increases a country’s producer surplus.
   b. increases a country’s total social surplus.
   c. increases a country’s consumer surplus.
   d. **ALL** of the above.

7. A Chinese farmer raises pigs and sells pork in a competitive market, and he eats a lot of pork himself. Pork is a normal good. If the market price of pork increases,
   a. he will eat less pork, because his demand curve is downward sloping.
   b. he will eat the same amount of pork, because he gets pork for free.
   c. he will eat more pork.
   d. There’s not enough information to determine how his consumption of pork will change.

8. Since air pollution imposes a negative externality,
   a. governments should tax pollution at the highest rate that doesn’t lead to bankruptcy.
   b. pollution should be eliminated.
   c. firms should be given the incentive to abate pollution when the cost of abatement is low enough.
   d. governments should allow the the free-market to determine the level of pollution.

9. Which of the following statements is **NOT** correct about a market in equilibrium?
   a. Consumer surplus will be equal to producer surplus.
   b. Those buyers with WTP more than the price choose to buy the good.
   c. The price determines which buyers and which sellers participate in the market.
   d. Those sellers whose costs are less than the price choose to produce and sell the good.

10. Which of the following is the best example of a positive externality?
    a. a box of chocolates of higher than average quality
    b. a drop in the price of apples
    c. a student who gets the flu vaccine
    d. a restaurant that serves excellent food

11. Suppose the US government passes a law making it much easier for US firms to import steel. Which is most likely to occur?
    a. A large deadweight loss will be created.
    b. US steel producers will hire more workers.
    c. The price of American-made cars will rise.
    d. The surplus of US steel producers will fall.

12. The opportunity cost of producing the 15th widget is
    a. the average cost of all the widgets produced.
    b. the price of widgets.
    c. 1/15 of the fixed cost.
    d. the marginal cost of the 15th widget.
13. **See Figure SSD.** In equilibrium, total surplus is 
   a. 375.  
   b. 1000.  
   c. 250.  
   d. 750.

14. **See Figure SSD.** The equilibrium allocation of resources is 
   a. inefficient because consumer surplus is larger than producer surplus at the equilibrium.  
   b. efficient because total surplus is maximized when 50 units are produced and sold.  
   c. efficient because consumer surplus is maximized at the equilibrium.  
   d. inefficient because total surplus is maximized when 25 units are produced and sold.

15. **See Figure SSD.** Suppose the government allows only 10 units to be produced and sold. Then 
   a. total surplus is maximized.  
   b. consumer surplus is maximized.  
   c. the marginal value of the last unit exceeds its marginal cost.  
   d. the marginal cost of the last unit is the same as its marginal value.

16. An international student spends $140 for a ticket to game six of the baseball World Series. But after an hour, she decides that baseball is extremely boring. She is tired of watching the players spitting and scratching their bodies. If she is economically rational, she should 
   a. stay there, because the $140 is a sunk cost.  
   b. stay there, because she will lose consumer surplus if she leaves.  
   c. stay there, because $140 was an avoidable cost.  
   d. leave and do something more fun.

17. **See Figure TXE.** The price that buyers pay after the tax is imposed is 
   a. $12.  
   b. $10.  
   c. $16.  
   d. $14.

18. **See Figure TXE.** The part of the tax paid by buyers is 
   a. $4 per unit.  
   b. $3 per unit.  
   c. $2 per unit.  
   d. The answer depends on who sends the tax to the government.

19. **See Figure TXE.** How much tax revenue is generated in the market for widgets? 
   a. $300  
   b. $240  
   c. $500  
   d. The answer depends on who sends the tax to the government.

20. Taxes can be useful tools of government policy, because 
   a. taxes can increase the quantity supplied when there are positive externalities.  
   b. taxes raise the most revenue when demand is very elastic.  
   c. taxes can increase social surplus when there are negative externalities.  
   d. **ALL** of the above
21. Private negotiations are **NOT likely** to solve problems from negative externalities when
   a. the government doesn’t intervene in the market.
   b. only a small number of people are affected.
   c. many firms create the externality.
   d. transaction costs are low.

22. Economic efficiency may not be compatible with equity, because
   a. rich people tend to work harder than poor people.
   b. competitive markets become inefficient when prices are unfair.
   c. marginal costs are increasing in the great majority of firms.
   d. incentives that increase efficiency may create large income differences.

**Figure PGL.** The Market for Gasoline. Suppose the supply of gasoline shifts from \( S_1 \) to \( S_3 \), and the government applies a price floor at \( P_2 \).

23. See Figure PGL. When the supply shifts and the price floor is applied,
   a. the market price will decrease to \( P_3 \).
   b. a shortage will occur at the market price \( P_2 \).
   c. the market price will stay at \( P_1 \).
   d. a surplus will occur at the market price \( P_2 \).

24. See Figure PGL. When the supply shifts and the price floor is applied, the quantity of gasoline that will be sold and bought is
   a. \( Q_3 \) or more.
   b. \( Q_1 \).
   c. less than \( Q_1 \).
   d. more than \( Q_1 \) but less than \( Q_3 \).

25. See Figure PGL. Suppose the supply shifts back from \( S_3 \) to \( S_1 \), but the price floor remains in place. Then,
   a. the quantity sold and bought will increase.
   b. the price will remain at \( P_2 \).
   c. the price floor will cause a larger deadweight loss than before.
   d. the price floor will no longer affect the price.

**Figure EXF.** Suppose \( D \) represents the market demand curve of US consumers. Then US firms begin to export to the UK, and US and UK consumers have a combined market demand at \( D' \). The line \( S \) is US market supply.

26. See Figure EXF. After exports begin, the surplus of US producers
   a. goes to zero.
   b. does not change.
   c. increases by $250.
   d. decreases by $250.

27. See Figure EXF. After exports begin, the consumer surplus of US consumers
   a. decreases by $150.
   b. increases by $50.
   c. increases by $150.
   d. decreases by $50.

28. See Figure EXF. The demand curves \( D \) and \( D' \) imply that some of the UK consumers _____ than any of the US consumers.
   a. have lower incomes
   b. have higher WTP
   c. have more elastic demand
   d. have less elastic demand
29. Suppose a price ceiling is below the equilibrium price. Then removing the price ceiling will
   a. reduce profits.
   b. create a Pareto improvement.
   c. increase consumer surplus.
   d. increase the quantity supplied.

30. The social surplus from the goods that are sold in a market without externalities equals
   a. value to buyers minus cost to sellers.
   b. consumer surplus minus producer surplus.
   c. the elasticity of demand times the equilibrium price.
   d. value to buyers minus profit to sellers.

Table EXR. Residents of a village can buy dogs to keep thieves away from their houses. Unfortunately, the dogs bark a lot and annoy the neighbors. Each dog has the following costs and benefits:

<table>
<thead>
<tr>
<th>Dog Number</th>
<th>Private Benefit</th>
<th>Private Cost</th>
<th>External Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$26</td>
<td>$6</td>
<td>$5</td>
</tr>
<tr>
<td>2</td>
<td>$24</td>
<td>$8</td>
<td>$5</td>
</tr>
<tr>
<td>3</td>
<td>$22</td>
<td>$11</td>
<td>$5</td>
</tr>
<tr>
<td>4</td>
<td>$20</td>
<td>$17</td>
<td>$5</td>
</tr>
<tr>
<td>5</td>
<td>$18</td>
<td>$19</td>
<td>$5</td>
</tr>
</tbody>
</table>

31. See Table EXR. The social surplus created by the second dog is
   a. $22.
   b. $24.
   c. $16.
   d. $11.

32. See Table EXR. The market-equilibrium quantity of dogs bought would be
   a. 4.
   b. 2.
   c. 1.
   d. 3.

33. See Table EXR. What is the smallest excise tax that could move the market to the socially optimal number of dogs?
   a. $5
   b. $1
   c. $4
   d. $8

34. Which of the following outcomes is NOT likely in an unregulated free-market economy?
   a. a market in human kidneys
   b. shortages of many goods
   c. many poor people
   d. pollution

35. A perfectly competitive firm will decide to charge the market price for its product, mainly because
   a. customers assume it will sell at the market price.
   b. it would lose its customers if it sets a higher price.
   c. arbitrageurs would enter the market if it charged less.
   d. other firms would match any price it sets.

36. When firms have an incentive to exit from a competitive market, their exit will
   a. change the cost curves of firms that remain in the market.
   b. lower profits for firms already in the market.
   c. raise the market price.
   d. make demand for the product more elastic.

37. Suppose there are binding rent controls in the market for apartments. Then,
   a. some consumers will pay lower rents than they would pay without controls.
   b. those willing to pay the most will get the apartments.
   c. the efficient number of apartments will be rented.
   d. the number of consumers who are renting apartments will increase.

38. When there’s no fixed cost and marginal cost is increasing, the marginal cost curve is the same as the
   a. income-consumption curve.
   b. demand curve.
   c. supply curve.
   d. NONE of the above

39. In order to please President Trump, corn farmers decide to sell as much corn as consumers want to buy at half the competitive-equilibrium price. Then
   a. consumer surplus will fall.
   b. producer surplus will increase.
   c. social surplus will fall.
   d. social surplus will increase.

40. Your roommate leaves trash in your dormitory room without cleaning it up. The trash doesn’t bother her at all, but you would be willing to pay $40 to live in a clean room. Your opportunity cost of cleaning the trash would be $50, but hers would be only $30. Which is an economically efficient way of solving the trash problem?
   a. You offer to pay her $35 to clean up the trash.
   b. You clean up the trash yourself.
   c. You do nothing and live with the trash.
   d. You leave a dead mouse in her bed as punishment for her behavior.