INSTRUCTIONS: Take out your pencils and your BU ID card.

ON YOUR QUESTION BOOKLET:
PRINT your name and Student ID Number [exactly as they appear on your BU ID Card], and then your Discussion Section Number (e.g. D5). Sign on the signature line.

ON YOUR GRADESCOPE BUBBLE SHEET:
In the boxes at the top-left of the bubble sheet:
- PRINT your NAME and Student ID, exactly as they appear on your BU ID Card.
  Include the ‘U’ in your ID.
- Print your discussion SECTION number (D1 - D9, E0 - E6) and Today’s Date in the boxes below.
- In the box at the top right, bubble your exam VERSION.
- Print your lecture section, (EC101DD or EC101EE) in the “Other” box.
Print neatly. 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 Bubble Sheet with the instructor or teaching fellow. Students in EC101 DD must give the TF both the Question Booklet and the Bubble Sheet at the end of the exam and exit from the front of the room. Students in EC101 EE should keep their Question Booklet and turn in only their Bubble Sheets. All students must show their BU Student IDs as to the TF 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 other answers can be justified by unusual assumptions.) On the Question Booklet, CIRCLE the answer that you chose. Then BUBBLE the answer on the Bubble Sheet.

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

***DO NOT sit near your friends during the exam.
***DO NOT write down your answers in large letters that others can see.
***YOU MAY NOT USE A CALCULATOR, CELL PHONE OR LAPTOP.

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. An economics professor spends $180 for a ticket to the Mozart opera *Cosi Fan Tutte*. But after 30 minutes, she decides that the music hurts her ears. She would rather be home working on her research project. If she is economically rational, she should
   a. stay there, because $180 was an avoidable cost.
   b. stay there in order to avoid losing consumer surplus.
   c. go home and work on her research.
   d. stay there, because $180 did not exceed her entertainment budget.

2. See Table JEX. 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>$1,400</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 JEX. The combined total production cost of all dresses sold is
   a. $2,600.
   b. $1,250.
   c. $2,250.
   d. $3,600.

4. Table JEX. Producer surplus in the market is
   a. $950.
   b. $2,250.
   c. $1,050.
   d. $3,600.

5. Since air pollution imposes a negative externality on society, governments should
   a. tax pollution at the highest rate that doesn’t cause firms to shut down in the long run.
   b. make pollution illegal.
   c. do nothing and allow the market to determine the level of pollution.
   d. give firms an incentive to abate pollution when abatement costs are low.

6. 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. Her opportunity cost of cleaning the trash would be $60, but yours would be only $50. Which is an economically efficient way of handling the trash problem?
   a. You do nothing and live with the trash.
   b. You leave a dead mouse in her bed as punishment for her behavior.
   c. You clean up the trash yourself.
   d. You offer to pay her $70 to clean up the trash.

7. See Figure RNO. The quantity of widgets purchased after the tax is imposed is
   a. 20.
   b. 30.
   c. 15.
   d. 40.

8. See Figure RNO. The part of the tax paid by sellers is
   a. $2 per unit.
   b. $1.50 per unit.
   c. $1 per unit.
   d. The answer depends on who sends the tax to the government.

9. See Figure RNO. How much tax revenue is generated in the market for widgets?
   a. $75
   b. $60
   c. $125
   d. The answer depends on whether the buyer or the seller sends the tax to the government.
10. The social surplus from the goods that are sold in a market without externalities equals
   a. the elasticity of demand times the equilibrium price.
   b. value to buyers minus the expenditures of buyers.
   c. producer surplus times the elasticity of supply.
   d. value to buyers minus cost to sellers.

11. In equilibrium, a perfectly competitive firm will not charge below the market price because
   a. arbitrageurs would enter the market.
   b. it would lose customers.
   c. charging below the market price violates antitrust law.
   d. selling more at a lower price would reduce its profits.

12. When firms have an incentive to exit from a competitive market, their exit will
   a. raise the market price.
   b. lower profits for firms already in the market.
   c. increase the costs of production for firms already in the market.
   d. shift market supply to the right.

13. Which of the following outcomes is NOT likely in an unregulated free-market economy?
   a. shortages of many goods
   b. luxury goods sold at high prices
   c. prostitution
   d. air pollution

14. Suppose a price ceiling is below the equilibrium price. If supply and demand are not perfectly elastic or perfectly inelastic, then removing the price ceiling will
   a. increase consumer surplus.
   b. increase the quantity sold.
   c. create a Pareto improvement.
   d. decrease profits.

15. The opportunity cost of producing the 43rd sailboat is
   a. the price of sailboats.
   b. 1/43 of the total cost of sailboat production.
   c. the average cost of all sailboats produced.
   d. the marginal cost of the 43rd sailboat.

16. If you have no information about the market for apples, but you know Qingyan’s marginal willingness to pay for each apple, then you can
   a. calculate the number of apples she will buy.
   b. construct her supply curve for apples.
   c. determine the price of apples.
   d. construct her demand curve for apples.

17. Which of the following is the best example of a positive externality?
   a. a tax on clothing
   b. a high-quality pair of shoes
   c. vaccinations against a contagious disease
   d. a drop in the price of rice

Figure UAB. The graph below describes supply and demand in a perfectly competitive market.

18. See Figure UAB. In equilibrium, consumer surplus is
   a. 375.
   b. 250.
   c. 500.
   d. 125.

19. See Figure UAB. The equilibrium is
   a. inefficient because social surplus is maximized when 50 units are produced and sold.
   b. inefficient because consumer surplus is larger than producer surplus at the equilibrium.
   c. efficient because consumer surplus is maximized.
   d. efficient because social surplus is maximized when 25 units are produced and sold.

20. See Figure UAB. Suppose the government allows only 10 units to be produced and sold. Then
   a. a large deadweight loss will be created.
   b. consumer surplus is maximized.
   c. the marginal cost of the last unit will be greater than its marginal value.
   d. social surplus is maximized.

21. When the demand for labor is extremely elastic, a tax on labor would
   a. raise a small amount of tax revenue.
   b. be paid mainly by workers.
   c. generate a small deadweight loss.
   d. be paid mainly by employers.
22. Suppose the US government passes a law making it much more difficult for US firms to export steel. Which is most likely to occur?
   a. US steel producers will hire more workers.
   b. US social surplus will increase.
   c. The surplus of US steel producers will fall.
   d. The price of American-made cars will rise.

23. When there is no fixed cost and marginal cost is increasing, the supply curve is the same curve as
   a. the demand curve.
   b. the marginal cost curve.
   c. the variable cost curve.
   d. the average cost curve

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

25. Private negotiations are most likely to solve problems created by negative externalities when
   a. the externality has a small effect on many people.
   b. the externality involves a small number of large firms.
   c. the government intervenes in the market.
   d. many firms create the externality.

26. A Texas rancher raises cattle and sells beef in a competitive market, and he eats a lot of beef himself. Beef is a normal good. If the market price of beef increases,
   a. he will eat less beef, because his demand curve is downward sloping.
   b. he will eat more beef.
   c. he will eat the same amount of beef, because he gets beef for free.
   d. The change in his consumption of beef cannot be determined by the information provided.

27. In perfectly competitive markets
   a. consumers may wait in long queues (lines).
   b. high-cost sellers charge more than low-cost sellers.
   c. consumers with low WTP may pay less than consumers with high WTP.
   d. consumers that purchase goods have higher WTP than those who do not.

28. Taxes can be useful tools of government policy partly because
   a. taxes can increase economic efficiency when there are negative externalities.
   b. taxes reduce the elasticity of demand.
   c. taxes increase consumer surplus when there are negative externalities.
   d. taxes can increase social surplus when there are positive externalities

29. See Figure MSU. After the foreign producers enter, the surplus of US consumers
   a. does not change.
   b. goes to zero.
   c. decreases by $25.
   d. increases by $25.

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

31. See Figure MSU. 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 less competitive
   d. pay higher wages
32. In the US, a factory can produce a pickup truck in 3 hours or a car in 2 hours. But in Japan, a factory can produce a pickup truck in 2 hours or a car in 4 hours. Then
a. the US has an absolute advantage in pickup trucks.
b. Japan has an absolute advantage in pickup trucks and cars.
c. Japan has a comparative advantage in cars.
d. the US has a comparative advantage in cars.

**Figure G10.** The Market for Gasoline. Suppose the supply of gasoline shifts from $S_1$ to $S_3$, and the government applies a price ceiling at $P_2$.

33. **See Figure G10.** When the supply shifts and the price ceiling is applied,
a. the market price will increase to $P_3$.
b. the market price will stay at $P_1$.
c. the market price moves below $P_2$.
d. the market price moves to $P_2$.

34. **See Figure G10.** When the supply shifts and the price ceiling is applied, the quantity of gasoline that will be sold and bought
a. will be less than $Q_3$.
b. can be anywhere between 0 and $Q_1$.
c. will be exactly $Q_3$.
d. will be more than $Q_3$ but less than $Q_1$.

35. **See Figure G10.** Suppose the supply shifts back from $S_3$ to $S_1$, but the price ceiling remains in place. Then,
a. the market price will remain at $P_2$.
b. the price ceiling will cause a larger deadweight loss than before.
c. the quantity sold and bought will decrease.
d. the price ceiling will no longer affect the price.

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

**Table VIR.** Residents of a village can buy dogs to keep thieves away from their houses. Each dog has the following costs and benefits:

<table>
<thead>
<tr>
<th>Dog Number</th>
<th>Private MWTP</th>
<th>Private MC</th>
<th>External Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$28</td>
<td>$6</td>
<td>$5</td>
</tr>
<tr>
<td>2</td>
<td>$26</td>
<td>$8</td>
<td>$5</td>
</tr>
<tr>
<td>3</td>
<td>$24</td>
<td>$13</td>
<td>$5</td>
</tr>
<tr>
<td>4</td>
<td>$20</td>
<td>$18</td>
<td>$5</td>
</tr>
<tr>
<td>5</td>
<td>$18</td>
<td>$19</td>
<td>$5</td>
</tr>
</tbody>
</table>

37. **See Table VIR.** The social surplus created by the second dog is
a. $24.
b. $26.
c. $18.
d. $13.

38. **See Table VIR.** The market-equilibrium quantity of dogs bought would be
a. 4.
b. 2.
c. 3.
d. 5.

39. **See Table VIR.** Of the amounts below, which is the smallest excise tax that could move the market to the socially optimal number of dogs?
a. $2.
b. $3.
c. $5.
d. $4.

40. Which of the following statements about the equilibrium of a perfectly competitive market is true?
a. Those sellers whose costs are more than the price choose to sell the good.
b. The price determines which buyers and which sellers participate in the market.
c. Those buyers with WTP less than the price choose to buy the good.
d. Consumer surplus is maximized.
MULTIPLE CHOICE

1. ANS: C  REF: A21
2. ANS: C  REF: A17
3. ANS: C  REF: A18
4. ANS: D  REF: A19
5. ANS: B  REF: A20
6. ANS: A  REF: A16
7. ANS: A  REF: A13
8. ANS: C  REF: A14
9. ANS: B  REF: A15
10. ANS: D  REF: A7
11. ANS: D  REF: A6
12. ANS: A  REF: A8
13. ANS: A  REF: A9
14. ANS: B  REF: A10
15. ANS: D  REF: A11
16. ANS: D  REF: A12
17. ANS: C  REF: A2
18. ANS: B  REF: A3
19. ANS: D  REF: A4
20. ANS: A  REF: A5
21. ANS: B  REF: A27
22. ANS: C  REF: A24
23. ANS: B  REF: A23
24. ANS: B  REF: A26
25. ANS: B  REF: A25
26. ANS: D  REF: A33
27. ANS: D  REF: A22
28. ANS: A  REF: A1
29. ANS: D  REF: A34
30. ANS: B  REF: A35
31. ANS: B  REF: A36
32. ANS: D  REF: A40
33. ANS: D  REF: A37
34. ANS: A  REF: A38
35. ANS: A  REF: A39
36. ANS: C  REF: A32
37. ANS: D  REF: A28
38. ANS: A  REF: A29
39. ANS: B  REF: A30
40. ANS: B  REF: A31