ECN 3890
Exam 2

Name: _____

READ THIS SECTION CAREFULLY.

This exam is for <u>your</u> work ONLY. You may use:
1. Your notes
2. Your book
3. The class videos (made by me)
4. A calculator

You may <u>not</u> use:
1. Your computer (other than downloading, printing, or reading the exam). Note: If you really want, you can type your answers in Word, you can.
2. Excel or any other spreadsheet program
3. The internet except D2L notes and videos
4. Other individuals

Failure to follow these guidelines will result in:
1. A grade of zero on the exam
2. A report of academic misconduct to the Office of Student Standards

Please believe me when I say that I take this seriously. I need to be able to trust that this is your work. Just because this is an online class does not change anything – you should treat this as you would an in-class exam where you are allowed to use your book and notes.

Completion of this exam means you have acknowledge the rules listed above and will act accordingly.

You will upload your answers either in Word or a pdf the same way as you submit your homework assignments. Make sure it is all in numerical order and in ONE document. NO PICTURES!

Due date: Tuesday, March 30 2021 at 11:00 pm. No late exams will be accepted!

Make sure you read all instructions carefully. Read each question carefully. Use a straight edge to draw graphs. Make the graphs at large enough for me to easily read and see all the points. Label everything! Answer all parts to each question. Your answer should be clear and detailed. <u>Show all work if you want any partial credit.</u> Point values are in parentheses.

I. MULTIPLE CHOICE. Read the questions carefully. Choose the best answer. Write the answer in the left-hand margin. (Each question is worth 3 points.)

1. Which of the following would result in a short-run increase in the wage rate in a competitive labor market?
A.	An increase in immigration.
B.	An increase in the price of the output produced by the labor.
C.	A decrease in the productivity of workers.
D.	An increase in labor supply.
E.	A decrease in labor demand.

2. Which of the following is **NOT** an accurate description of the equilibrium associated with a single competitive labor market?
A.	Firms receive surplus equal to the area above the wage rate and below the demand for labor.
B.	Workers receive surplus equal to the area below the wage rate and above the supply of labor.
C.	All workers are paid the same market-clearing wage.
D.	Total firm surplus is always equal to total worker surplus.

3. Imposing a payroll tax in the labor market will typically result in:
A.	firms paying a higher wage.
B.	workers receiving a lower wage net of taxes.
C.	a decrease in overall employment.
D.	All of these are possible outcomes.

4. When the government imposes a payroll tax on workers,
A.	the effects are identical to the effects had the government imposed the tax on employers.
B.	the costs of hiring a worker remains constant.
C.	the labor supply curve shifts to the right.
D.	total employment remains constant.
E.	workers' real wages are unchanged.

5.	Labor force participation rates tend to
A.	increase with education level for both men and women.
B.	decrease with education level for both men and women.
C.	decrease with education level for men but increase with education level for women.
D.	be unrelated to education level for both men and women.

6.	Why do workers typically pursue their education while young?
A.	Because there is more time to benefit from the higher wages that are typically associated with more education.
B.	Because all of their friends pursue education while young.
C.	Because living expenses are low for a younger person.
D.	Because parents force their children to attend college immediately after high school.

7.   People decide how much schooling to receive based on:
    A.   their discount rate.
    B.   the cost of schooling.
    C.   the present value of expected future earnings.
    D.   All of the above factors influence how much schooling one receives.

8.   If ability is positively related to schooling, then estimating the returns to education directly from the earnings will likely
    A.   under-estimate the return to schooling.
    B.   over-estimate the return to schooling.

9.   What is an example of specific job training?
    A.   Learning word-processing skills.
    B.   Learning how to use the firm's payroll system.
    C.   Obtaining a GED.
    D.   Passing the CPA exam.

10.   What is an example of general job training?
    A.   Learning how to use a forklift.
    B.   Learning how to weld.
    C.   Reading a book on techniques for managing large groups of workers involved on team projects.
    D.   All of the above are examples of general job training.

II. SHORT ANSWER. Read each question carefully. Answer ALL parts of each question. Make sure your answers are clear. Use a straight-edge to draw all diagrams. (Point values are in parentheses.)

OVER

(12)   1.   Predict **and explain** the impact of each of the following on **BOTH** the equilibrium wage rate and level of employment in the labor market for computer technicians. (Make sure you include an explanation!)

(a)   An increase in the number of firms requiring computer technicians.

(b)   The transformation of the labor market for computer technicians from a perfectly competitive labor market to a monopsony labor market.

(12)   2. PDQ, Inc. is a monopsony and faces a market labor supply that can be represented as $w = 3E$, where E is equal to the amount of labor and w is the wage rate. The firm's marginal revenue product and marginal cost of labor can be shown to be $MRP_E = 192 - 18E$ and $MFC_E = 6E$. Calculate the optimal level of employment for this firm. What will be the wage rate paid to workers? (Hint: Plot this out or use algebra and set the appropriate equations equal to one another.)

(6) 3. In the labor market for dog groomers in a small midwestern town, the equilibrium wage is $10 and the equilibrium level of employment is 15. An increase in the number of households in town with dogs leads to an increase in the demand for dog groomers. What will happen to worker surplus after this change? Explain. (It may help to use a diagram.)

(6) 4. The labor market for X-ray technicians is in equilibrium at a wage of $20 and an employment level of 50. An increase in the supply of X-ray technicians leads to a drop in the wage to $18 and an increase in employment to 60. What happens to the level of firm surplus? Explain. (It may help to use a diagram.)

(10) 5. Becky works in sales but is considering quitting her job (next year – period 1 year from now) for a year to earn an MBA. Her current job pays $40,000 per year (after taxes), but she could earn $55,000 per year (after taxes) if she had an MBA. Tuition is $10,000 per year and her living expenses (rent, groceries, etc.) would not change. Her discount rate is 5 percent. Becky is 51 years old and plans to retire at age 55 (regardless of whether or not she gets her degree). In other words, if she doesn't go to school, she has 4 more years of working. If she does, she will go to school for a year, and then work for 3. Should she go to school to obtain her MBA? Explain.

(12) 6. Debbie has just finished high school and is about to decide which type of education to get. She has narrowed down her options to two alternatives: a marine biologist or a concert pianist. <u>Suppose that Debbie only lives two periods</u>. In the first she gets an education, and in the second she works in the labor market.
   - To study marine biology, Debbie will have to spend $15,000 on tuition and books, but she will then earn $472,000 in the second period.
   - If she becomes a concert pianist, Debbie will have to spend $40,000 in the first period, but she will then earn $500,000 in the second period.

   a. Suppose that the discount rate is 5 percent. Which career will yield Debbie a better return? How would your answer change if the discount rate is 15 percent? Can you draw any conclusions from this concerning how changes in the discount rate affect the decision to invest in education?

   b. Suppose that music conservatories raise their tuition so now it would cost Debbie $60,000 to become a concert pianist. Which career would Debbie choose (assume the discount rate is 5 percent. Can you draw any conclusions from this concerning how changes in the cost of education affect the decision to invest in education?

(12) 7.   Gamma Corporation operates in a perfectly competitive labor market. It offers on-the-job training for its employees. Without training, the workers' marginal revenue product of labor (MRP_E) is $14 per hour and that is the wage paid to its untrained workers. During training, the workers' MRP_E falls to $11 per hour, but then rises to $18 per hour after training is complete. Gamma is trying to decide what to pay its workers during training and after training. The Human Resources manager has suggested offering a wage of $12.50 during the workers' training period.

a. If Gamma is offering general training, would you agree that a wage of $12.50 during training is a good idea? Explain your answer.

b. If Gamma is offering specific training, would you agree that a wage of $12.50 during training is a good idea? Explain your answer.