Form A

Instructions: This exam is worth a total of 120 points. There are 7 questions, and point values are indicated to the right of the question number. Books, notes, and calculators are not allowed, but you may leave arithmetic answers in fraction form. Good luck.

1. (15 points)
   A. Define discrimination coefficient for an employee (d_e).
   ① If an employee who belongs to group 1 is prejudiced against a coworker who belongs to group 2, and the employer does not segregate the workplace (due to imperfectly competitive markets, for example), what is the wage rate required by the prejudiced employee in order to work there?

   B. Define compensating wage differential.
   ① How does the concept of compensating wage differential relate to the employee discrimination coefficient?

2. (28 points) Suppose that Whitney just graduated from high school and is thinking about going to college. She is 18 years-old and expects to be in college for 4 years and then work continuously until retiring at 65.
   A. ① According to the model of human capital, a person will invest in college under what condition? (Define any abbreviations.)
   ② Using a graph, illustrate Whitney’s college investment decision. Be sure to label both axes, all curves, and areas on the graph relevant to her decision.
   ③ Based on your diagram, will Whitney go to college? Why or why not?

   B. ① Now suppose that state budget cuts result in a tuition increase. Show how the tuition increase affects the areas on the graph in part A. (You need not draw a second graph if the first is readable.)
   ② How does the tuition increase affect the likelihood that Whitney will go to college? Tie your answer to the graph.

3. (21 points)
   A. List 5 characteristics of perfect competition in the labor market.
   B. Assuming that a labor market is perfectly competitive, show graphically and state how each of the following economic events would affect equilibrium wage and employment rates in the overall labor market.
      ① an increase in the productivity of labor
      ② a decrease in average number of children

4. (13 points) Consider a hypothetical economy consisting of 2 types of workers, squares and circles. The mean wage for the squares is 28 and for the circles is 42. The mean level of education for the squares is 8 and is 10 for the circles. There are no productivity factors other than education. Data are collected on wages (W) and education levels (ED) for the squares and for the circles, and the following regressions are estimated.
   \[ W_s = 4 + 3 \text{ED}_s \]
   \[ W_c = 2 + 4 \text{ED}_c \]
   A. For this economy, what is the value of the unadjusted wage ratio for squares to circles?
   B. Write down the formula for the adjusted wage ratio and calculate it.
   C. Does there appear to be wage discrimination against the squares, wage discrimination against the circles, or no wage discrimination in this economy?
5. (8 points) Differences between men and women in the factors listed below have been proposed as possible explanations for the gender wage gap. Which of the factors in the table below may arise from personal choice, which from discrimination (ignore societal discrimination), and which from both choice and discrimination? For each of the factors ① - ④, mark an X in the box to the right that applies.

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Personal Choice</th>
<th>Discrimination</th>
<th>Choice and Discrimination</th>
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</thead>
<tbody>
<tr>
<td>① imperfect mobility</td>
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<td>② occupational outcomes</td>
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<td>③ union membership</td>
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<td>④ compensating wage differentials</td>
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6. (5 points) Circle the group or groups listed below who are protected under the Equal Pay Act of 1963: African-Americans, Catholics, Women, Veterans, Men

7. (30 points)
A. State the following facts for the most recent figures discussed in class for the U.S.:
   ① unadjusted wage ratio for African-Americans relative to whites
   ② adjusted wage ratio for African-Americans relative to whites
   ③ unemployment rate for African-Americans
   ④ unemployment rate for whites
   ⑤ Duncan and Duncan Index of Occupational Dissimilarity for African-Americans relative to whites

B. ① Explain the audit methodology for detecting discrimination.
   ② Define $P_{maj}$ and $P_{min}$.
   ③ State the value of $(P_{maj} - P_{min})$ for obtaining a job offer in the 1991 Urban Institute hiring study regarding African-Americans.
   ④ Is there evidence of hiring discrimination?
   ⑤ Do you think that this study by the Urban Institute is more or less reliable than the restaurant industry audit study discussed in AB and class? Briefly explain your answer.