For numbers 1-3, do any two if you have choice and wish to use it. They will be worth 18 points each. Cross out the problem you don’t want to answer. If you don’t have choice or opt not to use it, do all three at 12 points each.

1. The City of Columbus is discussing building a trolley car system on High Street from south of the Ohio State campus to downtown.
   a. Let us assume that trolleys are safer than the alternative of driving. Please cite two of the three methods from the text or class used to determine the dollar value of a life in a Cost Benefit Analysis.
      1. Wages (Human Capital) 2. Contingent Valuation (what would people pay for additional safety, survey) 3. Revealed preference
   b. Explain one of the methods from part a. in detail.
      2. Contingent Valuation Survey
      People: Ask how much they would pay for a flight that reduces the probability of dying from 1 in a million to 1 in a million.
      See how much people do pay for items that reduce the risk of death.
   c. The trolley system might save the average commuter five minutes if they use it in lieu of driving. Explain in detail one method from the text or class we might use to determine the dollar value of this time saved in a Cost Benefit Analysis. Do not use the same method discussed in part b.
      Market based. Look at wages of people, $12 per hour is avg. 8 min = 1/2 hr. So value of time is $1
   d. Suppose the Benefits for each year are given below. We will assume that the trolley system will fall apart after 2010 and have no value. Using a 7% social discount rate, calculate the Present Value of the Benefits.

<table>
<thead>
<tr>
<th>Year</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$0</td>
</tr>
<tr>
<td>2009</td>
<td>$10 million</td>
</tr>
<tr>
<td>2010</td>
<td>$10 million</td>
</tr>
</tbody>
</table>

\[
p.V. = \frac{\text{Ben yr} \cdot T}{(1+r)^T} = \frac{0 + 10,000,000}{(1.07)^0} + \frac{10,000,000}{(1.07)^1} + \frac{10,000,000}{(1.07)^2} \]

\[
= 0 + \frac{10,000,000}{1.07} + \frac{10,000,000}{1.1449} \]

\[
= 0 + 9,345,794 + 8,573,987 \]

\[
= 18,019,781 \]

e. There are several reasons we discount future benefits. Cite two.

2/3
- Inflation
- Opportunity cost of money
3. a. Please explain how a person's Social Security benefits are calculated. Discuss what factors are taken into consideration and how they are used. You will not be graded on exact numbers, but the rather a general discussion of the factors.

- The average (inverted) monthly earnings are calculated for the 25 highest earnings from 3/5.

- A primary insurant amount is calculated based on a formula that gives lower earnings workers a greater share of their AIME.

- The monthly amount is adjusted based on the age of retirement.

b. Who gets a greater return on their Social Security contributions; low income or high income workers? Explain why.

2/3 Lower income workers. The system is set up to give them a greater share of their AIME.

2/3 (They draw the benefits for more years.)

c. Who gets a greater return on their Social Security contributions, men or women? Explain why.

2/3 Women. They tend to live longer.

d. What impact does Social Security have on savings? (Direction of effect, not magnitude of the effect.) Explain why.

3/4 It tends to reduce savings if people know they will have retirement income, you have removed one reason for savings.

e. Social Security gives income to the elderly and naturally could be expected to reduce their supply of labor. How else does the Social Security benefits reduce their labor supply? (Note: Discuss Social Security only, not Medicare.)

2/3 It changes the wage rate. If you work and draw benefits, earnings can reduce one's social security benefit thus reducing hours worked if supply of labor is upward sloping.
a. What is meant by the idea of a categorical welfare program?

A welfare program restricted by a demographic characteristic.

b. Give an example of a categorical welfare program and explain how it meets the definition of one.

TANF - must be a parent (and low income) so only parents qualify.

c. Let us assume that Mabel can work as many as 2,000 hours per year. In the space to the right, label and carefully number the axes with leisure on the horizontal and income on the vertical. Draw a budget line for her assuming she could earn $8 per hour. Label it AB.

\[
\begin{array}{c|c|c|c|c|c|c}
\text{Leisure} & \text{Labor} & \text{Final Inc} & \text{TANF} & \text{Total Inc} \\
2000 & 0 & 0 & 5000 & 5000 \\
1625 & 375 & 7000 & 5000 & 5000 \\
1624 & 376 & 3000 & 4996 & 4996 \\
1627 & 376 & 13000 & 0 & 13000 \\
1628 & 376 & 16000 & 0 & 16000 \\
\end{array}
\]

d. Please draw an indifference curve showing her working 500 hours per year.

So Leisure = 1,500.

e. What is required besides low income for Mabel to qualify for TANF?

Parent (or really, financial responsibility for a minor).

f. Suppose that under TANF, Mabel is given $5,000 but her benefit is reduced by 50 cents for every dollar she earns over $3,000. Draw her new budget line. Label if CD. (Hint: Calculate the numbers first.)

g. Draw a new indifference curve that is consistent with the one you drew in part d. What happened to her hours worked under TANF?
4. (24 points. To be answered by all.) Please think about your answer before writing. Use the yellow paper you are given to make a draft of your answer. Since I will have to read these, legibility counts. If I have difficulty reading your writing, I will reduce your grade. The following page is blank so feel free to carry your answer on to the next page.

a. Explain, in terms of market failure or other reasons why the government intervenes in the market for health care. Please concentrate only on the main reason(s).

b. What is meant by the Iron Triangle of Health Care?

c. In light of the three goals stated in the Iron Triangle of Health Care, how good a job does the United States health care system do? Discuss and cite evidence to support your view. (Note: There are many possible full credit answers.)

d. We have presented several alternatives to the current United States health care system, e.g., the Oregon plan, the Canadian system and the British system. Choose one and explain how it works.

e. Discuss whether the system you choose would be better under the three goals you cited in part b.

f. Would you support this other system? Discuss, bringing in the reason(s) you cited in part a.

\[c, d, e & f \text{ will vary.}\]
5. Currently in the United States, the 20% of the population with the highest income receives approximately what percentage of aggregate income?
   a. 20%
   b. 35%
   c. 60%
   d. 65%

6. Suppose that the government sends a monthly check to those earning less than $400/week. This is an example of which of the following?
   a. in-kind welfare
   b. categorical welfare
   c. cash welfare
   d. all of the above
   e. both a and b

7. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (TANF) did which of the following?
   a. It imposed time limits on welfare recipients.
   b. It imposed work requirements on welfare recipients.
   c. More flexibility was given to the states in choosing the structure of cash welfare payments.
   d. All of the above are correct.
   e. Both a and b are correct.

8. You make $40,000 and ride your bicycle to work. You estimate that there's a 1% chance of having your leg broken in the next year and a 99% chance that you won't be hurt at all. Medical bills for a broken leg will be $4,000. Assume that your utility depends only on your consumption in either possible outcome, e.g., \( U = \text{Income} \). What would be your expected level of utility?

   \[
   U = 0.99(40,000) + 0.01(-4000) = 39600 + 0.01(-4000) = 39600 + 360 = 39960
   \]

9. Take the circumstances in number 8 and suppose your Utility = Square Root of Income. How much would you be willing to pay for insurance?

   \[
   U_{\text{full}} = \sqrt{40000} = 200
   \]
   \[
   U_{\text{break}} = \sqrt{40000} = -200
   \]
   \[
   U_{\text{util}} = 0.99(200) + 0.01(-200) = 198 - 2 = 196.2
   \]
   \[
   g = (197.2)^2 = 38887.49\]
   \[
   \text{Would pay up to } 40000 - 38887.49 = 1112.50\]
   \[
   U_f = \sqrt{40000} = 200
   \]
   \[
   U_{\text{break}} = \sqrt{36000} = 189.79
   \]
   \[
   U_{\text{util}} = 0.99(200) + 0.01(189.79) = 198 + 189.79 = 387.79
   \]
   \[
   g = (199.1974)^2 = 39958.96
   \]
   \[
   \text{So will pay } 41.04\]
10. If the government mandates that everyone have auto insurance because uninsured motorists cost other drivers money through higher premiums, which of the following justifications for government intervention is being used?

a. high administrative costs
b. redistribution
c. paternalism
d. externalities
e. adverse selection

11. Suppose that you have complete health insurance that pays for all medical expenses. You will use medical care up to the point where your:

a. total benefits equal the costs of providing the medical care.

b. marginal benefit is zero.
c. marginal benefit is equal to the marginal cost of the medical care.
d. marginal benefit is equal to the total costs of providing the medical care.
e. total benefits are equal to the cost of your health care insurance.

12. The Old Age, Survivor and Disability portion of Social Security is a tax levied on earning up to how much? (Full credit if answer within $10,000.)

$10,200

13. Which of the following refers to the expected present discounted values of a person's future Social Security payments minus the payroll taxes that person pays?

a. early debt
b. legacy debt
c. program deficits
d. Social Security fiscal imbalance
e. Social Security Wealth

14. Suppose that you are thinking about retiring one year earlier than you had planned. Which of the following provides you with an incentive to do so?

a. Since earnings generally rise with age, you won't get to replace a low-wage earnings year with a high-earnings year in the 35-year benefits average.

b. You won't pay an extra year of payroll taxes on your earnings.

c. You'll get a lower Social Security benefit level than you would otherwise have.

d. Both a and b are correct.
e. Both b and c are correct.

15. Which of the following is a reason for the fiscal imbalance of Social Security?

a. The first group to receive benefits didn't pay into the system.
b. People have fewer children than they used to.
c. Wage growth has slowed.
d. All of the above are correct.
e. Both a and c are correct.
16. Which of the following is a moral hazard effect of Social Security?

a. Retirees die sooner than they would without Social Security.
   ☑ Workers retire sooner than they would without Social Security.
   c. Retirees buy less health insurance than they would without Social Security.
   d. Workers work longer and become more unhealthy than they would without Social Security.
   e. Retirees suffer on-the-job injuries more as a result of Social Security

17. Suppose that you have private health insurance. Last year you were injured once, which represented the only time you had a medical expense. Then, you paid the entire $25 fee to see your doctor, who referred you to a specialist. The total bill for the specialist was $1,100. You paid the first $500, then 10% of the additional $600 (equal to $60).

Which of the following is the coinsurance?

a. the $25 paid for the doctor visit
   ☑ the $60 paid toward the cost of seeing the specialist
   c. the difference between the $25 paid to the doctor and what the doctor actually received (that is, the amount the insurance company paid the doctor)
   d. the $1,100 that the specialist received
   e. the $500 you paid toward the cost of the specialist

18. What is meant by the term third-party payer in health care?

Fee paid by someone besides recipient or provider

19. Approximately what share (%) of health care costs in the United States by third-party payers?

20. Medicare Part A is financed by which of the following?

a. general income tax revenues
   ☑ a payroll tax levied on both employees and employers
   d. a payroll tax levied only on employers
   e. a tax on Social Security benefits

21. The unwillingness to move to a better job for fear of losing health insurance is referred to as _______ and results from being _________.

a. a moral hazard; insured through the private market
   ☑ job lock; insured through one's employer
   c. job lock; uninsured
   d. first-dollar coverage; insured through one's employer
   e. first-dollar coverage; uninsured
22. Gruber refers to the concept of practicing medicine on the “flat of the curve.” Please draw the curve he is talking about and label the curve and the axes.

23. In number 22, what is the key point that the curve illustrates? Use an example to explain.

If a third party payer pays, people will consume a great deal more health care. Others will have procedures with little benefit when

24. Individuals who enter nursing homes usually pay first using which of the following means?

a. Personal savings
b. Medicaid coverage
c. Medicare coverage
d. Social Security long-term care coverage