SECOND MID-TERM

You have 2 hours to complete this exam. No outside books, notes or tables are permitted. Please do all your work carefully and check your answers before handing the exam in. You are advised to show as much of your work as possible to facilitate the awarding of partial credit. Good Luck!

This exam counts for 25% of your final grade.

PLEASE NOTE:

If you have Choice and want to use it: Answer 4 of questions 1-5 @ 15 points each for a total of 60 points. Cross out the PAGE of the question you are electing not to answer

No Choice or if you have Choice and elect not to use it: Answer all of questions 1-5 at 12 points each for a total of 60 points.
a. In the text and class we discussed the concept of Social Security Wealth (SSW). Please define what this means.

The discounted present value of expected future social security benefits minus the expected value of social security payments.

2/2

b. In general, with identical work histories who would have higher SSW, a male or a female? Explain why.

Females. They would pay the same amount, but receive the benefits more years as they tend to live longer than males.

3/2

c. In general, who would have higher SSW, low-wage earners or high wage earners? Explain why.

Low-wage earners. The formula returns a greater share of their tax payments to them.

3/2

d. In general, who would have higher SSW, single earner couples or double earner couples, with the same level of family income? Explain.

Single earner couples. They can collect 50% of the single earner benefit for the spouse, even if the spouse paid nothing in.

3/2

e. State one way the government could increase the SSW for Prof. Gitter.

Raise my benefits, cut my taxes, reduce the age for full benefits.

2/2

f. What impact would this have on the amount he would save? Explain in terms of economic theory.

With the need to save for retirement reduced, Prof. Gitter would save less. (The text notes that each $ of SSW reduces savings by 30-40 cents.)

2/2
2. Markus lives in Germany. For simplicity let us assume he can work up to 2000 hours per year. His wage rate is 10 euros per hour. The only things that give him any utility are Income and Leisure. He has no non-labor income.

![Graph showing income and leisure choices]

- **a.** In the space above, draw Markus’s budget line. Label it AB.

- **b.** Take the compact disc on the table and draw an indifference curve that shows him working 1200 hours per year. Label it I₁.

- **c.** Suppose Germany institutes a policy where every German is given 8,000 euros per year. But, as people earn money, they reduce their benefits by 1 euro for every 2 euros they earn. Draw the new budget line and label it CD.

- **d.** Take the compact disc and draw a new indifference curve tangent to CD. Label it I₂. Make sure it is possible in light of I₁. Many possible correct indiff. curves

- **e.** What happened to the number of hours that Markus WORKED? Did it rise or fall? By how much?

- **f.** Did the policy discussed in part c result in a greater income effect or a greater substitution effect? Explain how you can tell.
3. We discussed the six market failures and two other reasons for government intervention in the economy. What is the primary reason that the government intervenes in the market for health care? Explain why the government intervenes for this reason.

b. Suppose that a person has a demand for annual physician visits of \( Q = 18 - 1P \). If the cost of a physician visit is $100, how many will make each year?

\[
Q = 18 - 1(100) = 18 - 10 = 8
\]

c. What if the individual has to only pay a flat fee of $20 for a physician visit, regardless of what the physician charges? What is such a $20 payment called?

d. How many visits will our person make under this system?

\[
Q = 18 - 1(20) = 18 - 20 = 16
\]

e. What is the numerical value of the deadweight loss from such a system? Show your work with either a graph or through calculations.

f. Suppose a private firm decides to offer an insurance policy that will require a person to only pay $20 for an office visit. They might face the problem of adverse selection. Explain what that is in the context of this example.
4. Suppose there are 100 people who are age 58. They have lost their jobs due to overseas outsourcing and the government has decided to retrain them. They will spend this year (2007) learning how to become “green engineers” and work at jobs helping people save on their energy bills. (I have actually heard this proposed.)

a. If the people will be trained this year, and then work in 2008, 2009 and 2010 making $40,000 each year, what would be the Present Value of the Benefits of this program using a ten percent discount rate? (We will assume they will retire in 2011.) Keep it simple and calculate the benefit for just one person.

\[
P.V.\ Ben = \sum_{t=0}^{3} \frac{Ben \cdot t}{(1+r)^t} = \frac{40,000}{(1+0.10)^0} + \frac{40,000}{(1+0.10)^1} + \frac{40,000}{(1+0.10)^2} + \frac{40,000}{(1+0.10)^3}
\]

\[= 0 + 36,363.64 + 33,057.88 + 30,052.59\]

b. If the program cost $10 million this year for the 100 workers, i.e., $100,000 per worker is the program worth doing? (Use a cost benefit analysis for your answer.) Explain why it is or is not worth doing.

\[\text{No} \quad P.V. \text{ Cost} = 1000,000 > 99,474 = P.V. \text{ Ben}\]

\[
\]

c. Suppose that the suicide rate for older unemployed workers was 1 in a 100, so our program would save the life of one person. Discuss two methods from class or the text which we could use to arrive at a dollar figure for the value of the life saved.

Lost earnings we calculate the discounted

Lost earnings of the person

Contingent Valuation: Ask people how much they will pay to reduce the risk of dying

(Also, compare the wage differential. How much extra must one be paid to reduce the probability of dying)

d. In general, lower discount rates reduce the probability of pursuing a project when using a cost-benefit analysis. Why is this so?
5. In the United States we find that the share of income received by each group was

<table>
<thead>
<tr>
<th>Group</th>
<th>Income Share</th>
</tr>
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<tbody>
<tr>
<td>Lowest</td>
<td>3.4%</td>
</tr>
<tr>
<td>Second</td>
<td>8.7%</td>
</tr>
<tr>
<td>Third</td>
<td>14.7%</td>
</tr>
<tr>
<td>Fourth</td>
<td>23.2%</td>
</tr>
<tr>
<td>Highest</td>
<td>50.1%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Income Share</th>
<th>Cum % P01</th>
<th>Cum % Inc</th>
</tr>
</thead>
<tbody>
<tr>
<td>200%</td>
<td>200%</td>
<td>200%</td>
</tr>
<tr>
<td>400%</td>
<td>600%</td>
<td>800%</td>
</tr>
<tr>
<td>800%</td>
<td>1000%</td>
<td>1200%</td>
</tr>
</tbody>
</table>

a. In the space to the right, carefully draw the Lorenz curve. Label and NUMBER the axis.

b. Show how the Gini coefficient is calculated.

\[
\text{Gini Coefficient} = \frac{\text{Area A}}{\text{Area A+B+C}}
\]

c. If there was perfect equality, what would be the numerical value of the Gini Coefficient?

\[
\text{Perfect Equality} = 0
\]

d. Over the last 40 years, what has happened to the degree of income equality in the United States?

Increased

e. How is poverty defined in the United States?

In 1965, the cost of food for a family of four. Since adjusted by inflation. Adjusted by family size as well.

f. Cite two improvements from the readings that might be made to our poverty line in the United States.

- Does not take into account local cost of living
- Does not count in-kind income
Multiple Choice. Two points each.

6. The federal government requires that individuals cannot receive Temporary Assistance for Needy Families for longer than _______ year(s).
   A) 1
   B) 2
   C) 3
   D) 5
   E) 7

7. In what way is instituting a work or training requirement in a welfare program an ordeal mechanism?
   A) It imposes a cost on high-ability individuals who want to receive welfare only to increase their leisure.
   B) It prevents those receiving welfare from doing so for longer than society deems optimal.
   C) It provides a long-term solution to the problems of those receiving welfare.
   D) Both b and c are correct.
   E) None of the above is correct.

8. The Federal Insurance Contributions Act (FICA) tax on earnings for OASDI (Old Age, Survivor and Disability Insurance is ______ for employees and ______ for employers.
   A) 4.3%; 4.3%
   B) 4.3%; 0%
   C) 6.2%; 6.2%
   D) 6.2%; 0%
   E) 8.9%; 8.9%

9. What is the Full Benefits Age for those born in 1960 or later, i.e., you guys?
   A) 50
   B) 55
   C) 67
   D) 65
   E) 72

10. What is the Early Entitlement Age?
    A) 50
    B) 55
    C) 62
    D) 65
    E) 72
11. Which of the following refers to the debt incurred by the government because early
generations of beneficiaries received much more in benefits than they paid in taxes?
A) early debt
B) legacy debt
C) program deficits
D) Social Security fiscal imbalance
E) Social Security Wealth

12. Which of the following is a reason behind the fiscal imbalance of Social Security?
A) Wage growth has slowed dramatically.
B) An increase in birth rates has occurred over time.
C) People are living longer.
D) All of the above are correct.
E) Both a and c are correct.

3. In 2004, health care spending in the United States accounted for approximately what
percentage of GDP?
A) 5%
B) 16%
C) 25%
D) 35%
E) 45%

14. Jermaine has a health insurance policy that has a deductible of $1,000, a $10 co-
payment on doctor visits, and coinsurance of 10% on all expenses other than those for
which there are co-payments. If Jermaine went to the doctor 4 times (doctor's fee is $40
per visit) and had a surgery that cost $2,000, how much of these expenses did Jermaine
pay directly?
A) $0
B) $1,000
C) $200
D) $1,160
E) none of the above

15. Which of the following explains why nearly all firms with more than 200 employees
offer health insurance, while only 55% of firms with fewer than 10 employees provide
health insurance?
A) The expected expenditure per worker is smaller for large firms than for small firms.
B) Administrative costs per worker increase as the number of insured employees
increases.
C) The expected expenditure per worker is more predictable for large firms than for
small firms.
D) All of the above are correct.
E) Both b and c are correct.
16. Suppose that a healthy individual has worked for ten years in Medicare-covered employment. At what age can this individual start receiving Medicare?
A) age 65
B) age 62
C) the age at which that individual starts to receive Social Security benefits
D) depends on the average income that individual had earned in those highest paid ten years of Medicare-covered employment
E) none of the above

17. According to the notion that “flat of the curve” medicine is practiced in the United States, which of the following best describes the marginal health benefit from the next dollar of medical spending?
A) It decreases as more is spent on health care.
B) It increases as more is spent on health care.
C) It first increases and then decreases as more is spent on health care.
D) It is constant.
E) It first decreases and then increases as more is spent on health care.

8. Medicare provides health insurance to which group?
A) poor families
B) all elderly over age 65
C) disabled persons under age 65
D) both b and c
E) none of the above

19. Medicare is administered by federal, and is financed by payroll.
A) states; general revenues
B) states; a payroll tax
C) federal government; general revenues
D) federal government; a payroll tax
E) private insurance companies; general federal government revenues

20. Which of the following is true of the Prospective Payment System?
A) It was established in 1935.
B) It gives hospitals an incentive to keep patients for a longer period of time.
C) All diagnoses for hospital admissions were grouped into one of several hundred groups on which reimbursement was based.
D) Both a and b are correct.
E) Both b and c are correct.
21. When an individual in a nursing home can no longer afford the care, what typically happens?
   A) The individual is removed from the nursing home.
   B) The individual pays for it using a recently-purchased long-term care insurance policy.
   C) The individual's nursing home costs are covered under Medicaid.
   D) The individual's nursing home costs are covered under Medicare.
   E) The individual's nursing home costs are covered under Social Security.

22. If the present discounted value of $85 next year is $80 this year, then what is the implied annual rate of interest?, i.e, the discount rate.
   A) 3.03%
   B) 5%
   C) 5.88%
   D) 6.25%
   E) none of the above

23. Which of the following factors would cause the hourly wage to understate the value of saving someone time by building a new highway?
   A) The person really enjoys the company of the people at work.
   B) The person would like to work less, but the boss will not allow it.
   C) The person would like to work more, but the boss will not allow it.
   D) Both a and b are correct.
   E) Both b and c are correct.

24. The search for the least costly way of providing a desired public good is referred to as which of the following?
   A) contingent valuation
   B) revealed preference
   C) cost-benefit analysis
   D) social discounting
   E) cost-effectiveness analysis

25. Which of the following is true with respect to a public national health insurance system?
   A) It would not resolve the problem of job lock
   B) It would reduce the administrative costs associated with the health insurance system
   C) It would require massive new government expenditures.
   D) Both a and b are correct
   E) Both b and c are correct