Section 1: Answer 1 of 2

1.1) Below you are given estimates of the Marginal Private Cost (MPC), Marginal Private Benefit (MPB), and the Marginal Damage (MD) from producing copper ore. A copy of the graph is attached if you wish to use it to illustrate your answers.

a. What level of production will the private sector undertake?

b. What level of production is socially optimal?

c. Assume the government chooses to use a per unit tax to correct the problem. What will the (per unit) the amount of this tax be? What are some advantages of a tax? What are some disadvantages? What is the name given to this type of tax?

1.2) Lillyput, a small country, is having a bit of a problem. A large gold mine is polluting a lake with cyanide. Two groups are up in arms over this, the one large fishing firm that uses the lake and thousands of recreational users of the lake. The government is thinking about assigning exclusive ownership of the lake to one of the three groups.¹

¹The gold mine is a possible group.
a. What theorem in economics covers externalities and ownership of a resource that would otherwise be common property?

b. To whom does this theorem say that property rights should be assigned?

c. Discuss the ramifications (difficulties, benefits, results) if the property rights are assigned to the gold mine.

d. Discuss the ramifications (difficulties, benefits, results) if the property rights are assigned to the fishing firm.

e. Discuss the ramifications (difficulties, benefits, results) if the property rights are assigned to the recreational users.

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Section 2: Answer 1 of 2

2.1) The region known as Babiland was, until recently, just one of 12 districts (i.e. states) in the country of Mamastan. Babilanders successfully broke away to form their own country, the Little People’s Republic of Babistan. At large elections are to be held for the legislature of Babistan. Two methods are being considered:

Method A consists of dividing the country into 25 districts and having each district elect one member to the legislature in a winner take all election. Whichever single party in a district gets the most votes wins the seat for that district.

Method B consists of electing all 25 legislatures in single, country-wide election. Seats in the legislature are then distributed according to the proportion of votes a party wins in this election.

There is very little variation in Babistan from region to region. Within each region, however, there is a good bit of variation. Some Babistanis hold very right beliefs, some very left wing, and some centrist. The right wingers, however, are not concentrated in one area. Instead, they are spread uniformly throughout the country. The same is true of left wingers and centrists. In other words, there is a lot of variation in Babistan, but it is not based on different regions (i.e. districts if Babistan is divided into districts).

a. Which method do you think will lead to more political parties arising in Babistan? Explain your answer as thoroughly as possible.

b. Which method do you think will lead to a greater number of centrist candidates in the legislature? Explain your answer as thoroughly as possible.

c. Assume the method leading to a greater number of centrist candidates is chosen. Does this mean that voter on the ends of the spectrum (far right or far left) have little influence on the political process? Why or why not?

2.2) a. What the heck is log-rolling and why are members of congress doing it?

b. Is log-rolling just a macho election year stunt?
c. Describe an example of log-rolling in which it increases society’s welfare. Use numbers in your example and clearly explain who is doing what and why.

d. Describe an example of log-rolling in which it decreases society’s welfare. Use numbers in your example and clearly explain who is doing what and why.

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### Section 3: Answer 2 of 3

3.1) How permanent is the “underclass of poverty” in America and how does this affect the usefulness of poverty and income distribution statistics? More specifically, answer the following questions.

a. What (roughly) are the “turnover” rates among the highest and the lowest income groups (the poorest 20% and the richest 20%)? Give me some numbers.

b. When measuring poverty and income distribution, we tend to use data that is a snapshot of the economy at a given point in time (i.e. we use “stock” data, not “flow” data). If there is a good degree of mobility between income groups, does this mean the poverty is less of a problem or more of a problem that our snapshots indicate? Explain your answer.

3.2) Erda is a consultant for the government of Gothland. She is assisting the government in developing a program designed to help the poor. Her task is to explain the pros and cons of 1) a system in which the poor receive cash, and 2) a system in which the poor receive vouchers useable only for specific products (ex. food stamps and housing vouchers).

a. Explain the basic difference between the two programs using indifference curve analysis. Which type of program does indifference curve analysis tend to support? Why?

b. Are there any arguments for the other type of program? Is so, what are they?

3.3) Brunhild is a consultant for the government of Asgard. Asgarrd has a program AAFDC (Asgard Aid to Families with Dependent Children) which is identical to the United States AFDC program. Bruhild has been asked to critique the AAFDC program and suggest alternatives.

a. Explain the AAFDC program using indifference curve analysis.

b. What are the drawbacks of this AFDC type program?

c. Suggest another means of helping the poor, in particular a program discussed in class. If possible, use indifference curve analysis. What are the advantages and disadvantages of this program?