**Key Terms**

- Axelrod's Tournament
- Club Goods
- Coase Theorem
- Coasian Bargaining
- Collective Consumption Goods
- Constitutional Rules
- Cyclical Majorities
- Decision-making Costs
- Externalities (positive and negative)
- Free-rider problems
- Government as Interest Group
- Internalization of Externalities
- Lindahl Pricing
- Log-Rolling
- Median Voter Model
- Non-excludability
- Optimal departures from Unanimity
- Pigouvian Taxes
- Prisoners’ Dilemma
- Property Rights and Externalities
- Pure and Impure Public Goods
- Rational Ignorance
- Redistribution Policies and Equity
- Rent-seeking
- Social Marginal Cost
- Spillovers
- Taxes vs. Regulation

**True—False Questions**

1. The optimal decision rule is less than unanimity.
2. The level of transactions costs is relevant to the resolution of property rights problems.
3. Assume that the government can reduce car pollution using either a corrective tax or a regulatory scheme, both of which will achieve the same results in the short-run. In the long run, however, the regulatory scheme will be more efficient because it provides incentives to avoid the regulation altogether.
4. When cyclical majorities arise, the winner of an election will be determined by the order in which the choices are presented to the voters.
5. Most public goods produced by government are non-excludable because the costs of exclusion are too high.
6. Income inequality is rarely the result of differing levels of work and productivity but instead typically arises from barriers to entry.
7. A government program, once started, perpetuates itself because those responsible for administering the program often become its strongest supporters.
8. Public goods have to be produced by the public sector.
9. The likelihood of an individual’s vote being significant in a Presidential election is fairly high so long as they live in a swing state.
10. The smaller the percentage of voters required for collective action, the higher the external costs.

**Multiple Choice Questions**

11. A goal of equality of income could be justified based on the utilitarian idea that _____.
   - a. individuals face diminishing marginal utility of income
   - b. social welfare functions are convex to the origin
   - c. rich people have more than they every could need
   - d. redistribution does not lead to an increased excess burden of taxation

12. In general, pollution is economically inefficient because ________.
   - a. people do not like breathing bad air
   - b. it is a byproduct of a market exchange
   - c. producers are only pursuing their own self-interests
   - d. producers do not have to internalize the opportunity cost of clean air
13. In the context of collective decision-making, external costs are _____.
   a. the costs imposed on everyone in the group
   b. the costs imposed on those outside the group
   c. the costs imposed on those who voted for the decision
   d. the costs imposed on those harmed by the decision

14. If voters prefer alternatives closer to their most preferred outcome to alternatives farther away from their most preferred outcome, we can say that voters have _____.
   a. single-peaked preferences
   b. double-peaked preferences
   c. rational preferences
   d. irrational preferences

15. The inefficiency for collective consumption goods stems from the fact that _____.
   a. the total cost of the good is too high
   b. the marginal cost of the good is zero
   c. the total cost of the good is zero
   d. the good cannot be priced because it is too easy to steal

16. A corrective tax can improve upon the misallocation of resources resulting from an externality _____.
   a. only if the externality is positive
   b. only if it is easy to quantify the external damage
   c. transactions costs are low
   d. transactions costs are zero

17. A public highway looks like a collective consumption good because there is very little traffic on it and zero congestion. Hence the marginal cost of an additional car is zero. Which of the following statements best describes why we should not assume that the road would always be a collective consumption good?
   a. The lack of congestion could be the result of government overproduction.
   b. The lack of congestion could be because of its low speed limit.
   c. The lack of congestion could be because of excessive police ticketing.
   d. The lack of congestion is because of the lower cost of alternative means of travel.

18. If charity is a collective consumption good then government redistribution of resources can be justified on the basis that _____.
   a. government can act as a catalyst to encourage more private giving
   b. government helps deal with the prisoner's dilemma problem
   c. government overcomes the free riding problem
   d. government consumption is one-third of gross domestic product

19. Translating the preferences of each individual into the preferences of the group is _____.
   a. a challenge faced only by clubs
   b. a challenge faced by all collective decision making organizations
   c. inherent in all decision making
   d. a challenge faced only by government

20. Voters have an incentive to be rationally ignorant of most political issues because _____.
   a. all candidates target the median voter
   b. political information is costly
   c. they are likely to be canceled out by another uninformed voter
   d. their vote has some likelihood to change the outcome
21. Which of the following is not an example of agenda control?
   a. The assignment of members of Congress to committees.
   c. Special interests deciding which members of Congress deserve their attention.
   d. The majority caucus decides who can run for Speaker of the House of Representatives.

22. An optimal corrective tax should be placed on _____.
   a. the sellers of the externality-generating activity
   b. the inputs into the externality-generating activity
   c. the externality-generating activity
   d. the purchasers of the output of the externality-generating activity

23. Nonexcludability is a matter of degree. As the cost of excluding individuals rises, _____.
   a. the marginal cost of provision increase
   b. the marginal cost of provision decreases
   c. the probability of free riding declines
   d. the probability of free riding increases

24. Once a government program is put into place, the employees of the bureau put in charge of administering the program _____.
   a. become profit maximizers
   b. begin working in the public interest
   c. start rent seeking
   d. become an interest group

**Short Answer/Problems**

25. Explain the difference between a technological and pecuniary externality. What are the public policy implications of both types of externalities? Explain your reasoning.

26. Define a collective consumption good and why private production of collective consumption goods will be inefficient and therefore could justify government intervention.

27. Explain the difference between equality of opportunity and equality of results. Draw an analogy to a football game.

28. Draw and explain how an optimal collective decision rule is determined. Clearly label your graphs and axis.

29. What is the primary prediction of the median voter model? List the two key assumptions of the median voter model regarding the preferences of voters.

30. Logrolling would allocate resources efficiently if everyone could participate. List and explain two reasons why we do not see logrolling in general elections.
Answer Key:
1. True
2. True
3. False
4. True
5. False
6. False
7. True
8. False
9. False
10. True
11. A
12. D
13. D
14. A
15. B
16. B
17. A
18. C
19. B
20. C
21. C
22. C
23. D
24. D
25. Technological externalities are externalities that directly affect a firm’s production function or an individual’s utility function while pecuniary externalities influence market demand and supply conditions. The key difference between the two types of externalities is that while both types of externalities impose costs or benefits on third parties, technological externalities occur external to the market system while pecuniary externalities occur within the market system. The result is that public policy can, in theory, improve efficiency in the case of technological externalities but not in the case of pecuniary externalities. This is because pecuniary externalities do not result in a misallocation of resources like technological externalities.
26. A collective consumption good is a good that, once produced, can be consumed by others without reducing the amount of the good that can be consumed by existing users. The inefficiency of collective consumption goods flows from the fact that the marginal cost of adding another customer is zero. If the producer produces the good, you do not want to exclude anyone who wants it at a zero price. However, any positive price charged by the producer will eliminate consumers who would be willing to consume the good anywhere from marginal cost to the positive price. For efficiency then, the price should be zero. This implies that the good will not be produced since no firms can stay in business giving goods away. Thus government can possibly overcome this inefficiency by raising funds through taxation to finance production of the good and then giving it away to anyone who wants it.
27. Equality of opportunity means that everyone has the same chance to pursue their own goals, while equality of results aims to give everyone the same outcome. In a football game, equality of opportunity would mean that the rules of the game are mutually agreed upon as fair, while equality of results would mean that the game would end in a tie.
28. With total cost on the y-axis and the percent required to agree on the x-axis, the optimal collective decision rule is determined by looking at decision-making costs and external costs. External costs are shown by the downward sloping curve labeled E. Note that external costs equal zero at 100 percent agreement. The upward sloping curve (D) represents decision-making costs. Note that decision-making costs increase as we get closer to a unanimous voting rule. Adding these two curves together we get the curve D+E. The optimal decision rule is determined where D+E is minimized. That is, the optimal decision-making rule is the one with the least costs.
29. The median voter model examines collective decision-making by majority rule and concludes that a majority rule voting system will select the outcome preferred by the median voter. The first key assumption of the median voter model is that voters are assumed to be able to place all possible election outcomes along a one-dimensional continuum. The second key assumption is that voters have single-peaked preferences. That is, they prefer outcomes closer to their preferred outcome to outcomes farther away from their preferred outcome.

30. The first reason we do not see logrolling in general elections is because of high transactions costs. With large numbers of voters in a general election the transactions costs to matching up voters in a political marketplace are quite high. The second reason and more important reason we do not see logrolling in general elections is because of the secret ballot. The secret ballot makes it impossible to confirm that a deal made in the political marketplace was actually carried out. Even if transactions costs were low, few traders would want to engage in a political exchange if they could not ensure that their trading partner lived up to her side of the bargain.