

THIRD TEST. ECON 353, SPRING 2014. NAME: \_\_\_\_\_

*Part I: Answer in the spaces provided. Show your work.*

Example 1

6: D>A>B>C

5: B>C>A>D

4: C>A>B>D

2: D>C>A>B

Example 2:

1200 voters, 5 seats to be filled

610 voters for party A

410 voters for party B

180 voters for party C

**1-1. Plurality and Hare.** Find the plurality and Hare winners in example 1.

**1-2. Condorcet analysis.** Construct a tournament diagram and pairwise matrix from example 1. Use this to find the Smith set (A.K.A. minimal dominant set), the minimax winner, and the Black winner.

**2-1. Hare quota.** Find the outcome of example 2 in a party list system with the Hare quota.

**2-2. SNTV.** Discuss the outcome of example 2 if SNTV (or cumulative voting) is used.

**2-3. Block voting.** Discuss the outcome of example 2 if block voting is used.

Points for part I questions: 2, 4, 2, 2, 2.

*Part II: Answer on separate sheets of paper, labeling each question clearly.*

**1. Two party representative democracy, deterministic. (four points)** Explain why two political parties in a one-dimensional issue space might be right next to each other – and right next to the median voter – in the equilibrium of the game where each party positions its platform to maximize votes. Explain clearly what assumptions go into this result, making note of which assumptions may be unrealistic. Include the alternative assumptions of voter ‘alienation’ and ‘indifference’ in your discussion.

**2. Two party representative democracy, probabilistic. (four points)** Explain intuitively the difference between probabilistic and deterministic models of voter behavior. What factors may account for the ‘noise’ or ‘chance’ in the probabilistic models? Why might the introduction of this uncertainty create equilibria in situations where none exist in the deterministic model?

**3. Multi-party representative democracy. (four points)** Use the following example: Party A has  $\frac{2}{5}$  of the votes and  $\frac{2}{3}$  of the seats. Party B has  $\frac{2}{5}$  of the votes and  $\frac{1}{3}$  of the seats. Party C has  $\frac{1}{5}$  of the votes and zero seats. Calculate the effective number of parties by vote (ENV), the effective number of parties by seats (ENS), and the disproportionality (Dev). Explain intuitively what each of these terms mean, and how one should interpret the values you calculated.

**4. Endogeneity of the number of parties. (six points)** Explain the effect of the electoral system on the number of parties. Consider dictatorship, plurality, Hare, Condorcet-Hare, block voting, party list with few seats per district, party list with many seats per district. Place each system on a spectrum from fewer parties to more parties. Give an intuitive explanation of your placements.

**5. Majority rule in multi-dimensional space. (four points)** Sketch a two-dimensional issue space in which three voters have unique ideal points and strictly convex preferences. Describe the set of Pareto optimal points. Explain how an ‘agenda setter’ can lead the voters to any point in the space that he chooses, including a point outside the Pareto set.

**6. Majority rule and redistribution. (four points)** First, give a general argument as to why there may be no equilibrium in majority rule when the question of redistribution arises. Second, explain why political decisions might be fairly stable after all, e.g. because some of the assumptions used in the first argument don’t always hold in practice.

**7. Efficiency, equity, and redistribution. (six points)** Make an argument for redistribution based on efficiency, and then make a distinct argument for redistribution based on equity.