

POLS 608 Midterm exam

10 point essay question.

Some scholars see the majority rule instability/chaos theorems as mere extensions or reinterpretation of Arrow's theorem, while others see them as completely separate topics. Neither of these views is demonstrably false, so educated people are free to disagree. Briefly outline the basic elements of the two kinds of theorems and then address the question. Make a case for one side or the other.

PUT THESE AFTER YOUR ESSAY. Answer them **IN ORDER!**

Answer 5 of these short identification questions, which are worth one point each. You don't get any extra credit for filling your answers with baloney, so why bother? No partial credit will be given--either you are right or wrong.

1. Given  $P_1 = \{y_1, y_2, y_3\}$  and  $P_2 = \{y_6, y_7, y_8, y_9\}$ , what is the Cartesian product  $P_1 \times P_2$ ?
2. What is a contract curve? How does it help in the analysis of two-dimensional spatial voting models?
3. If preferences are single peaked, what can we say about majority rule in a one-dimensional model? What justification can you offer for your claim?
4. Give a "verbal translation" of the meaning of each of these expressions (1/2 point for each)
  - A.  $\{x \in X \mid \exists y \in X \text{ such that } y P_i x \ \forall i \in N\}$
  - B.  $\{y \in X \mid y R_i x\}$
5. In the spatial majority rule model, there is chaos. In the model of parliamentary government, there is no chaos. What new features are introduced in the parliamentary model that can account for this difference?
6. How would you describe a voting procedure that is given by this rule:  
 $x P y$  if and only if  $|\{i \in N \mid x P_i y\}| > |\{i \in N \mid y P_i x\}|$   
If there are only two alternatives, what desirable properties would such a system have?
7. What does the requirement of "Independence from Irrelevant Alternatives" mean to you? Can you describe a voting procedure that might violate it?