Test 3 is scheduled for Thursday, April 14. It will cover the chapters 1–3 from your book.

Be familiar with the following terms and symbols.

1. preference schedule
2. vote counting methods
3. plurality method
4. Borda count method
5. method of plurality with elimination
6. method of pairwise comparison
7. fairness criteria
8. majority criterion
9. Condorcet criterion
10. monotonicity criterion
11. independence of irrelevant alternatives criterion
12. weighted voting system
13. quota
14. \([q : W_1, W_2, \ldots, W_n]\)
15. dictator
16. dummy
17. winning coalition
18. critical player
19. Banzhaf power index
20. sequential coalition
21. pivotal player
22. Shapley-Shubik power index
23. factorial \((n!)\)

Be familiar with the following methods of division.

1. divider-chooser
2. lone divider
3. lone chooser
4. last diminisher
5. sealed bids
The following is a list of things you should know and be able to do for the test. It is not necessarily complete.

1. Construct a preference schedule from ballots.
2. Determine the winner from a preference schedule using a given vote counting method.
3. Determine whether or not, in a given schedule, a given vote counting method violates a given fairness criterion.
4. The number of different pairs that can be formed from the elements of an $n$-element set is $\frac{n(n - 1)}{2}$.
5. Find the number of different pairs that can be formed from a given set.
6. Explain why a given vote counting method always satisfies a given fairness criterion.
7. Construct a preference schedule which for which a given vote counting method violates a given fairness criterion.
8. Determine the possible values of the quota of some weighted voted system.
9. Construct a weighted voting system to match given conditions.
10. There are $2^n - 1$ possible coalitions in a weighted voting system with $n$ players.
11. Find all the winning coalitions in a weighted voting system.
12. Determine which players are critical in a winning coalition.
13. Determine the Banzhaf power index for every player in a weighted voting system.
14. Determine whether or not a weighted voting system has a dictator.
15. Find all the dummies in a weighted voting system.
16. Construct all the sequential coalitions in a weighted voting system.
17. Determine which player is pivotal in a sequential coalition.
18. Find the Shapley-Shubik power index for every player in a weighted voting system.
19. There are $n!$ different sequences of $n$ items.
20. Describe a fair division using any of the methods given above.
21. Determine whether a distribution is fair.