Game Theory 2 Exam Topics, Spring 2026

1. Cooperative games: matching game, spanning tree game. Core, Shapley value, Shapley-Shubik power index. (5.1, 5.2)
2. Convex games, Shapley value in the core. Spanning tree game with reduced costs. The nucleolus. (5.3, 5.4)
3. Vickrey-Clarke-Groves mechanisms. Community project, sponsored search, knapsack auction. (4.3.2, 4.3.3)
4. Myerson's theorem, optimal auctions. (4.3.5)
5. Finite algorithms for fair division and envy-free division. (4.1)
6. Sperner's Lemma, Scarf's Lemma. Existence theorems for envy-free division and rent division. (4.1)
7. Voting mechanisms: Arrow and Gibbard–Satterthwaite impossibility theorems. (4.2)
8. Non-atomic congestion games, atomic congestion games, the price of stability and of anarchy (2.11)

Section numbers refer to the online lecture notes (in Hungarian).