

Final Exam - Definitions, Theorems, Proofs

- Theory of the consumer
 - Axioms: Completeness, ...
 - Walras' law
 - Transformation property of utility functions + proof.
 - UMP vs. EMP
 - Slutsky equation, Shepard's lemma, Roy's identity with proof.
 - Properties of $v(p, w)$ and $e(p, u)$. The proofs we did in the class-room.
 - Law of compensated demand + proof.
 - Construction of EV and CV.
- Production:
 - Definition and properties of a production possibility set. I assume that everybody also knows the concept of a production function. (in particular properties 1-10 of production possibility sets).
 - Definitions of profit maximization problem and profit function
 - Law of supply + proof.
- Decisions under uncertainty:
 - Definitions of different kinds of lotteries.
 - Lotteries and the simplex.
 - Von Neumann Morgenstern Axioms
 - Von Neumann Morgenstern utility representation
 - Transformation property of expected utility functions plus proof

- Properties of indifference curves
- Definition of risk aversion, equivalent definitions;
- General Equilibrium
 - Edgeworth box and examples (in particular you have to know what is a competitive equilibrium in the Edgeworth box, what is the Pareto set and the contract curve, does equilibrium exist, is it unique, the impacts of non-convexities).
 - You should be able to discuss aspects and implications of the first and the second fundamental theorem of welfare economics in the Edgeworth box.
 - One Firm one consumer economy