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.

- Production:

  - Definition and properties of a production possibility set. I assume that everybody also knows the concept of a production function. (in particular properties 1-11 of production possibility sets).

  - Definitions of profit maximization problem and profit function

  - Hotelling's lemma + proof by means of the envelope theorem

  - 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