

## Study Guide for exam 1(Fall 2017)

### **Marginal Analysis**

- i. Be able to explain the concept of economic efficiency and what it means in the context of environmental resource management using words and graphs.
- ii. Be able to explain how costs and benefits are defined in economics
- iii. Understand the nature of the abatement costs and benefits curves and the reason for their respective slopes.
- iv. Be able to explain the equimarginal rule in the static and dynamic efficiency context. Understand the role of the discount factor in dynamic context.

### **Benefits and Costs**

- i. Be able to explain how to measure the costs and benefits of an environmental project (resource).
- ii. Be able to explain the methods for measuring the benefits and costs of an environmental resource. Be able to discuss the drawbacks of these measures and the methods used to measure them.
- iii. Know the values of environmental quality.
- iv. Be able to apply the above concepts in the practical application scenarios.

### **Supply and Demand.**

- i. Be able to define what constitute a market (3 x'tics of a market)
- ii. Explain the law of demand and supply and what that means in relation to their respective curves.
- iii. Be able to explain why the demand curve is the marginal benefit curve, and the supply curve is the marginal cost curve. This connection should help you explain the link between the market equilibrium and the equimarginal rule (efficiency of markets)
- iv. Be able to explain when we can or cannot rely on the market for an efficient outcome.
- v. Be able to demonstrate in a given scenario whether the market will fail or not.

### **Property Rights**

- i. Be able to explain what open access resource (common resource) is and the problem it poses for environmental resource management-tragedy of the commons. Be able to give examples of the tragedy of the commons.
- ii. Be able to explain the Coase theorem and its limitations
- iii. Be able to explain property rights and the emergence of property rights (review Demetz(1967) article)
- iv. Be able to determine whether the Coase theorem can resolve a particular environmental problem. Be able to give examples of Coase cases.

### **Market Failure**

- i. Be able to explain what a market failure and why it is prevalent in environmental resources.

- ii. Be able to explain and identify an externality.
- iii. Be able to explain how externalities lead to market failure and why internalizing an externality is welfare-enhancing using graphs .
- iv. Be able to enumerate the consequences of market failure in the case of an externality (both positive and negative)
- v. Be able to explain what a public good is and why the market fails to allocate them efficiently. What is the consequence of market failure in the case of public good. Be able to connect public goods to positive externalities.
- vi. Be able to explain the tragedy of the commons and why they happen.
- vii. Be able to explain the user cost of a resource.

### **Types of Policies and objectives & Government Failure**

- i. Be able to explain the three main types of government policies and their respective objectives in dealing with market failures.
- ii. Be able to explain Pigouvian tax or subsidy and how they are used to deal with market failures using graphs.
- iii. Be able to explain the implementation problems associated with government policies.
- iv. Be able to explain the reasons why government fails.

### **Types of Government**

- i. Be able to explain the different forms of capitalism and give at least 3 examples each of countries where they are practiced.

### **Socio-economic factors**

- i. Be able to explain GDP and how it is calculated.
- ii. Be able to explain the limitations of GDP as a measure of the wealth of a country.
- iii. Be able to explain the concept of green accounting (review the growth v. pollution article)
- iv. Understand the EKC, its implications and criticisms.
- v. Be able to talk about the pattern of population growth and its implication on resource use.
- vi. Be able to explain where economists and ecologists differ in terms of the burden of population on resource use.
- vii. Should be able to explain ecological footprint and how it is measured.
- viii. Explain the components of EF.

### **Utility Theory:**

- i. Be able to define an Indifference curve and Indifference map.
- ii. Be able to explain the typical shape of the IC and why.
- iii. Be able to explain the marginal rate of substitution.
- iv. Be able to define the Budget constraints.
- v. How is the optimal consumption bundle determined?
- vi. How is the demand curve derived?
- vii. Be able to use the shape of the IC to define perfect complements and perfect substitutes.

### **Role of Religion**

i. Be able to explain the environmental resource use from the perspectives of the major religions in the world.