**ENVIRONMENTAL SCIENCE FINAL REVIEW**

**CH.5**

* **Ecosystem diversity**
* **Extinction rates**
* **Factors that threaten biodiversity**
	+ **Overexploitation**
	+ Habitat loss
	+ Destruction of habitat
	+ Fragmentation of Habitat
	+ Pollution
	+ Biological magnification
	+ Acid precipitation
	+ Eutrophication
* Natural resources
	+ Renewable and nonrenewable
* Sustainable use
* Protecting biodiversity
	+ Biodiversity hotspots
* Bioremediation
* Biological augmentation
* Genetic Diversity
* **Species richness**
* **Species evenness**
* **What is evolution?**
	+ Microevolution
	+ Macroevolution
	+ Genes
	+ Inherited traits
	+ Phenotype
	+ Genotype
* Natural selection
* Artificial selection
* Darwin’s theory of evolution (The 5 points)
* Evolution by random process
	+ Mutation
	+ Genetic drift
	+ Bottleneck effect
	+ Founder effect
* Speciation
	+ Allopatric, sympatric
* Factors affecting the pace of evolution
* Range of tolerance
* Niches
* The five global mass extinctions

CH.6

* Order of ecological levels
* Factors that Regulate Population Abundance and Distribution
	+ Population size,
		- Density-dependent factors, Independent factors
	+ population density,
	+ population distribution
		- Random, clump, uniform
	+ sex ratio,
	+ age structure
* Growth models- growth rate, intrinsic growth rate,
* J-shaped curve (exponential growth), s-shape curve (logistic growth)- Study graphs
* Carrying capacity, overshoot, die-off
* K-selected and R-selected species –Table 6.1 see notes

Ch. 7

* Human population growth
* Demography
* Factors that drive human population growth
	+ Changes in population size
	+ Fertility
	+ Life expectancy
	+ Age structure
	+ Migration
* Immigration
* Demographic Transition model and its phases
* Emigration
* Crude birth rate
* Crude death rate
* Global population growth rate formula
* Doubling time formula
* Fertility
	+ Total fertility rate
	+ Replacement level fertility
	+ Developed and developing countries
* Life expectancy
* Infant mortality rate, child mortality rate
* Study structure diagrams figure. 7.8
* Net migration rate
* The 4 stages of Demographic transition
* 12 most populous countries
* Affluence
* GDP

Ch.8

* Earth’s crust
* Earth’s layers
* The 3 geologic cycles
* Convections and hotspots
* Theory tectonics
* Consequence of plate movements
	+ Volcanoes
	+ Types of plate contact
		- Divergent, convergent, transform fault Fig. 8.8
* Tectonic cycles
* Faults, Earthquakes, fault zone, epicenter
* Richter scale ( how an earthquake is measured)
* Rock cycle
* Different types of rocks
	+ Igneous
		- Intrusive, extrusive
	+ Sedimentary
	+ Metamorphic
* Weathering
	+ Physical, chemical
* Erosion
* Deposition
* Soil
* 5 Factors that determine the formation of soil
* Differentiate between immature, young and mature soil. fig. 8.20
* Soil layers (horizons)
* Porosity of soil ( fig. 8.23)
* Chemical properties of soil
	+ Soil base
	+ Soil acid
	+ Base saturation
* Elemental composition of the Earth’s crust
	+ Reserves
	+ Types of mining
		- Surface
			* Strip, open pit, mountain top, placer mining
		- Subsurface

CALCULATION

* How to calculate population in doubling time
* How to measure Richter scale earthquakes
* Calculating biodiversity ( make sure you understand the mathematics)