

APES MIDTERM EXAM 2012
Topic list



This is a fairly extensive list but by no means a complete list of all exam question topics. A good focus for reviewing.

Exam covers notes, PowerPoints, Barrons, chapters 1-5,7,8,9,13,20

- ultimate energy source
- negative feedback loops
- high & low quality matter/energy
- primary consumers
- ecological efficiency
- pyramids of numbers
- ecosystem with highest average NPP
- organism tolerance limits
- hydrologic cycle- linking cycles
- currency for energy exchange in living systems
- nitrogen fixation
- human impacts on the carbon cycle
- human impacts on the sulfur cycle
- leaching
- neutralizing acidic soil
- grassland soil
- coniferous soil
- igneous, sedimentary, metamorphic rocks
- tropical rain forest soil characteristics
- major reserves of nitrogen and sulfur in their cycles
- most abundant atmosphere gas
- two major processes in carbon cycle
- coriolis effect
- ozone – importance
- major greenhouse gases
- El Nino – definition & location
- Water quality
 - ⇒ pH
 - ⇒ turbidity
 - ⇒ hardness
 - ⇒ D.O.
 - ⇒ salinity
- upwelling
- two most important factors in climate
- phytoplankton
- intertidal organisms conditions
- importance of estuaries and coastal wetlands
- littoral, limetic, profundal zones
- mitigation banking
- 1997 Marine Fisheries Reform Act
- thermal stratification of lakes during summer
- largest water use worldwide
- effects of wetland destruction
- coliform as indicator of water quality
- major biological source of D.O. in ocean
- point source water pollution
- % freshwater worldwide
- eutrophication – sources of pollutants causing
 - greatest source of water pollution in terms of total mass
 - introduction of invasive species
 - water pollution & control laws of the 1970s
 - ocean dumping bans
 - reasons for floodplain settling
 - sewage treatment
 - greatest % domestic water use activity
 - commensalism
 - parasitism
 - mutualism
 - predation
 - competition
 - primary succession
 - facilitation
 - consequences of fire suppression
 - theory of island biogeography
 - indicator species
 - Batesian & Mullerian mimicry
 - generalist vs. specialist
 - clumped dispersion
 - carrying capacity
 - density-dependent population controls
 - r & K strategists
 - Type I & III survivorship curves
 - Garrett Hardin's *Tragedy of the Commons*
 - world pop. size
 - evolution (summer work)
 - biome
 - most important factor in determining biome location
 - desert plants
 - desert locations worldwide
 - permafrost – characteristic biome
 - coniferous forest biome trees
 - characteristic organisms of the biomes
 - ⇒ tundra
 - ⇒ deserts
 - ⇒ tropical rain forest
 - ⇒ temperate deciduous forest
 - ⇒ taiga
 - ⇒ temperate grassland
 - ⇒ savanna
 - evolution of species, not individuals
 - Coevolution
 - examples of geographic isolation
 - subsidence
 - cons of dams and reservoirs
 - Factors affecting water capacity of soil
 - Drip irrigation
 - Function of parts of wastewater treatment plant
 - ⇒ Bar screen, activated-sludge tank, settling tank
 - Economic benefits of large dams
 - Why invasive species become pests
 - Nitrates & cultural eutrophication
 - Water test data analysis
 - Clean Water Act – purpose & provisions

Exam Format:

110 objective questions (scantron)
4 short answer
Bonus