

## APES Semester Exam Review– Mrs. Bauck

- 1) TWO ESSAY QUESTION FROM THE FRQ BANK – 80 pts. total  
2) MULTIPLE CHOICE:

Ch. 1 – general information and experimental design = 9  
Ch. 2 – definition of ecosystems = 20  
Ch. 3 – function of ecosystems = 17  
Ch. 4 – populations in ecosystems; ecosystem change = 37  
Ch. 5 – human population dynamics = 23  
Ch. 6 – issues in population and development = 11  
Ch. 8 – soil topics = 21  
Ch. 7 – general water topics = 17  
Ch. 17 – water pollution = 30

185 MC questions total = 185 pts.

185 + 80 = **265 total points for the exam**

### **Ch. 1 – general info and experimental design**

- 1) Ethics
- 2) Experiment
- 3) Proportionalities: directly proportional, indirectly/inversely proportional
- 4) Scientific Law
- 5) Scientific Theory
- 6) Stewardship
- 7) Sustainability
- 8) Variables: independent, dependent

### **Ch. 2 – definition of ecosystems**

- 9) Abiotic; abiotic factors
- 10) Biomes
- 11) Biosphere:
- 12) Biotic; biotic factors
- 13) Climate: temperature, precipitation
- 14) Consumers/heterotrophs: primary consumers, secondary consumers, tertiary consumers. Decomposers
- 15) Detritus
- 16) Detritus feeders
- 17) Ecotone
- 18) Food chain
- 19) Food web
- 20) Inorganic
- 21) Optimum Level
- 22) Organic
- 23) Photosynthesis
- 24) Producers/autotrophs
- 25) Species
- 26) Symbiosis: mutualism, commensalism, parasitism
- 27) Ten Percent Rule
- 28) Trophic levels

### **Ch. 3 – function of ecosystems**

- 29) Aerobic
- 30) Anaerobic
- 31) Atoms
- 32) Atmosphere

- 33) Calorie
- 34) Carbon Cycle (and relevant formulas)
- 35) Cell respiration / aerobic respiration
- 36) Chlorophyll
- 37) Energy
- 38) Entropy
- 39) Inorganic carbon
- 40) Laws of Thermodynamics: First Law, Second Law
- 41) Legumes
- 42) Nitrogen cycle (and relevant formulas)
- 43) Organic molecules
- 44) Phosphorus cycle (and relevant formulas)
- 45) Photosynthesis
- 46) Waste products: fecal waste

### **Ch. 4 – populations in ecosystems; ecosystem changes**

- 47) Alien / non-native / exotic species
- 48) Allele
- 49) Balanced herbivory
- 50) Biotic potential
- 51) Carnivore
- 52) Carrying capacity
- 53) Critical number
- 54) Differential reproduction
- 55) DNA
- 56) Ecosystem
- 57) Endangered species
- 58) Environmental resistance
- 59) Gene
- 60) Gene pool
- 61) Herbivore
- 62) Heredity
- 63) J-curve
- 64) Lichens
- 65) Mutations: lethal mutations
- 66) Natural enemies
- 67) Omnivore
- 68) Plate tectonics

- 69) Population
- 70) Population density
- 71) Population equilibrium:
- 72) Population explosion / J-curve / exponential growth
- 73) Recruitment
- 74) S-curve
- 75) Selective breeding
- 76) Selective pressure
- 77) Speciation
- 78) Territoriality

#### **Ch. 5 – human population dynamics**

- 79) Crude birth rate (CBR)
- 80) Crude death rate (CDR)
- 81) Demography
- 82) Developed country
- 83) Developing country
- 84) Factors which contributed to population growth after the 1800s
- 85) Fertility
- 86) Fuel, in developing countries
- 87) High-income countries
- 88) Longevity
- 89) Percentage of the global human population living in developing countries
- 90) Percentage of the world's wealth controlled by developed vs. developing countries
- 91) Population profile (age pyramid) graph
- 92) Population trends in developed vs. developing countries
- 93) TFR (total fertility rate)
- 94) World population
- 95) World population growth

#### **Ch. 6 – issues in population and development**

- 96) Debt of developing countries
- 97) Family planning: contraception
- 98) GNP
- 99) Fertility
- 100) Microlending
- 101) Mortality: infant mortality; maternal mortality
- 102) Poverty: cycle of poverty
- 103) Social modernization
- 104) World Bank

#### **Ch. 8 – soil issues**

- 105) Aeration
- 106) Compost
- 107) Deposition
- 108) Erosion
- 109) Humus
- 110) Leaching
- 111) Loam: % sand, silt, and clay
- 112) Mineralization
- 113) No-till planting
- 114) Nutrient-holding capacity (ion-holding capacity)
- 115) Overgrazing

- 116) Peat Moss
- 117) pH
- 118) Salinity
- 119) Salinization
- 120) Soil Horizons
- 121) Soil separates
- 122) Soil texture
- 123) Topsoil
- 124) Transpiration:
- 125) Weathering

#### **Ch. 7 – water topics**

- 126) Channelization
- 127) Condensation
- 128) Estuary
- 129) Evaporation
- 130) Gravitational water
- 131) Gray water
- 132) Groundwater
- 133) Hydroelectric power
- 134) Hydrogen bonding
- 135) Infiltration
- 136) Kinetic energy
- 137) Leeward
- 138) Salt water intrusion
- 139) Water usage
- 140) Windward
- 141) Xeriscaping

#### **Ch. 17 – water pollution**

- 142) ~9% of water in wastewater entering a sewage treatment plant
- 143) Activated sludge
- 144) Anaerobic digestion of sludge
- 145) Benthic (zone)
- 146) Bioaccumulation
- 147) Biological treatment
- 148) Biomagnification
- 149) BNR
- 150) BOD
- 151) Chemical formulas:  $Cl_2$ ,  $NaClO$ ,  $NH_3$ ,  $O_3$ ,  $NO_3^-$ ,  $NO_2^-$ ,  $NH_4^+$
- 152) Clean Water Act (CWA) of 1972
- 153) Cultural eutrophication
- 154) Eutrophication
- 155) Fecal coliform test
- 156) Hypoxia / dead zones
- 157) Modern sewage system: grit-settling tank, bar screen, etc.
- 158) Point vs. non-point source pollution
- 159) Preliminary treatment of wastewater
- 160) Primary treatment of wastewater
- 161) Secondary treatment of wastewater
- 162) Sediment
- 163) Sewage: raw; cake
- 164) Tertiary treatment of wastewater
- 165) Turbidity
- 166) Runoff
- 167) SAV