**Final Exam General Review – Environmental Science 2018**

**Chapter 9- Human Populations**

1. At what time in the United States did the fertility rate reach it’s peak? Late 50s-early 60’s
2. Define demographer. someone who studies trends in human populations
3. How do you calculate population change in a particular year? births and immigrations-death + emigration (those moving in-those moving out)
4. What does the age structure look like for a country that has a high growth rate? Like A in #10
5. What are factors often associated with high infant mortality rate? those associated with a Least Developed Country like poor quality or lack of food, lack of medicine, poor hygiene
6. The fastest-growing populations are in which type of countries? Developing-Least developed countries
7. How is a population pyramid created? male and female population totals grouped by age group
8. What is a human demographic trend? Give some examples of past human demographic trends. Events that happen either economically or by health or global disaster that influences populations. Examples-The great depression, the black plague
9. What is an age structure diagram? see #10
10. What is happening in each of the following age structure diagrams? A-fast growing, B slow growing, C no growth

**A.** **B.** **C.**

  

**Chapter 15 – Food and Agriculture**

1. Define arable land. land used for farming (fertile land)
2. Define famine. widespread starvation usually from drought
3. How does malnutrition occur? Poor quality of food or not enough nutrition.
4. What does it mean for an animal to be domesticated? Used for human use, not grown in the wild-like dogs and cows.
5. List several reasons why erosion might occur. salinization, drought, over irrigation,
6. In the food pyramid, how much energy is lost between trophic levels? 90% lost as heat, 10% moves to the next level.
7. What level of the food pyramid would require the least amount of energy to survive? plants use the sun
8. What is livestock and what does it provide to the consumer? food, leather, upholstery, clothing
9. What is salinization as it refers to farming and agriculture? overuse of inorganic fertilizers
10. What is the term for organisms that are bred and managed for human use? domesticated

**Chapter 17 – Non-Renewable Resources**

1. How does nuclear fission work? radioactive elements like Uranium are split apart through fission and release enormous amounts of energy used for electricity
2. What are fossil fuels and how are they made? Organic sediments from prehistoric times are compressed and heated creating fuel. (coal, oil and natural gas)
3. What are some common pollutants given off by burning coal? carbon dioxide, Nox and Sox
4. What the most commonly used fossil fuel in the world? coal
5. What is the industrial revolution and how was coal impacted during this time? During the late 1800’s great growth in industry. Coal was used for fuel
6. What is Chernobyl and what happened there? Nuclear power plant in eastern Ukraine had a major meltdown in 1986
7. What is an electric generator? mechanical energy converted to electrical energy
8. What is a moderator in a nuclear reactor? used to slow the free neutrons
9. What is the most common moderator used for this purpose? water
10. What was nuclear power first used for? electricity
11. Where does the majority of energy used in the United States come from? coal

**Chapter 19 – Waste**

1. How are landfills built to ensure they are safe? they are deep underground encased with thick plastic liners and concrete and sand
2. How much energy can be saved by making aluminum cans from recycled aluminum?10%
3. What is compost? biodegradable waste used as fertilizer
4. What is a biodegradable plastic? breaks down over time usually from sunlight
5. Name some things that are considered hazardous waste? heavy metals, lead, gasoline, plastics, medical supplies
6. Name several problems associated with landfills. the leak “leachate” which is highly toxic
7. List examples of products that are biodegradable. paper, food, and lawn wastes;

Non-biodegradable: glass, plastic, metal

1. What is methane gas used for? natural gas
2. What items make up the largest percentage of waste produced by households and businesses? paper
3. What makes a material biodegradable? its ability to break down naturally over time.
4. After the medical revolution, what happened to the human population? exponential growth
5. How do organisms become resistant to bacteria?overuse of antibiotics, using antibiotics for viruses, animals given antibiotics.

**Chapter 3-4-5 – Organization of Life & How ecosystems work**

44. What are the levels of ecological organization?

What are the characteristics for each level? And label which is the smallest and which is the largest.

What is the difference between biotic and abiotic factors? Give 3 examples of each.

What does interdependence of the trophic levels mean?

45. What percent of energy is passed on from one trophic level to the next?

What percent of energy is lost from one trophic level to the next?

46. What is the difference between an autotroph and a heterotroph? Give some examples of each.

47. Where does the origin of the energy for most ecosystems come from?

48. What do the arrows in a food chain/web represent?

49. Which trophic level can hold the largest population? Which one has the smallest population?

50. What is the difference between a food web and a food chain?

51. Where do producers get their energy from in a food web/chain?

52. List what each of the following types of organisms eat: herbivore, carnivore, omnivore, & detritivore.

53. What is the law of Thermodynamics and how does it apply to the flow of energy and matter within an ecosystem?

54. Draw and label an energy pyramid. Be sure to identify producer, primary consumer, secondary consumer, tertiary consumer, quaternary consumer in a food chain/web.

55. Draw and label a biomass pyramid, identifying each level.

56. What is the difference in an energy pyramid and a biomass pyramid?

**Chapter 6 -7–Land and Aquatic Biomes**

57. What two factors characterize a biome?

58. What does the word temperate mean?

59. What are the different terrestrial and aquatic biomes? Which biome do we live in?

 60. Name the biome that is a mixture of salt and fresh water. What is the importance of this biome?

 61. Explain why coral reefs are so important to preserve.

62. What is eutrophication?

63. How does pollution and eutrophication affect the aquatic ecosystems?

64. What are the 5 biogeochemical cycles?

**Chapter 10, 13– Biodiversity, Succession, & Climate change**

65. What is the difference between climate and weather?

66. What are examples of short term and long term natural climate changes? What is the difference in El Nino and La Nina?

67. Over the last 100 years, what’s the average temperature rise over the globe? What is the main cause of increasing temperatures?

68. What are the major causes for increased atmospheric CO2?

69. What are the major greenhouse gases?

70. What are the major sources of CO2 in our atmosphere?

71. What is the greenhouse effect and explain how it’s compared to the inside of your car on a summer day?

72. What are possible explanations for global warming?

73. How can we prevent global warming?

74. Differentiate between primary and secondary succession.

75. What are pioneer species and provide examples in both primary and secondary succession?

76. What is a climax community?

77. What are reasons why biodiversity is important in an ecosystem?

78. What are the 3 ways to measure biodiversity?

79. What are the roles that each type of critical species plays in an ecosystem (Endemic species, indicator, endangered, extinct, invasive, keystone).

80. Predict and provide the consequences of ecological changes in the populations of critical species.