Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Environmental Science CH.8 Take Home Test

Multiple choice (2 points each)

1. Which layer of Earth is composed primarily of iron and nickel?
   1. The core
   2. The crust
   3. The asthenosphere
   4. The mantle
   5. The lithosphere
2. The Hawaiian islands were formed
   1. At a divergent plate boundary
   2. At a hotspot
   3. At a convergent plate boundary
   4. At a transform fault
   5. At a mid-ocean ridge
3. Which rock is formed at a high temperatures and pressures?
   1. Extrusive igneous
   2. Intrusive igneous
   3. Basaltic
   4. Sedentary
   5. Metamorphic
4. Earthquake epicenters are often at
   1. Divergent boundaries
   2. Convergent boundaries
   3. Transform boundaries
   4. Hot spots
   5. Subduction zones
5. Acid precipitation directly causes
   * 1. Erosion
     2. Physical weathering
     3. Chemical weathering
6. I only
7. I and II only
8. I and III only
9. III only
10. I,II, and III
11. What are the 5 primary soil formation factors?
    1. Altitude, climate, parent material, latitude, organisms
    2. Climate, parent material, pH, organisms, topography
    3. Parent material, topography, organisms, time, latitude
    4. Parent material, climate, pH, latitude, altitude
    5. Climate, parent material, topography, organisms, time
12. Which is the correct order of soil horizons starting at the surface?
    1. A, B, C, O
    2. O, C, A, B
    3. O, A, B, C
    4. A, C, O, B
    5. A, B, O, C
13. What type of soil would be best for a man-made pond, where the goal is to have as little leakage of water as possible?
    1. Mostly clay
    2. Mostly silt
    3. Mostly sand
    4. Equal amounts of sand, silt, and clay
    5. Equal amounts of silt, and sand
14. Which of the following, if added to soil, would lower the base saturation?
    1. Sodium
    2. Potassium
    3. Magnesium
    4. Calcium
    5. Aluminum
15. The soil horizon commonly known as subsoil is the
    1. A horizon
    2. O horizon
    3. B horizon
    4. C horizon
    5. E horizon
16. An Earth slowly cooled
    1. A lighter elements sank to the core and heavier elements moved to the surface.
    2. Lighter elements mixed with heavier elements and sank to the core.
    3. Lighter elements mixed with heavier elements and moved to the surface.
    4. Lighter elements moved to the surface and heavier elements dispersed evenly from the core to the surface.
    5. Lighter and heavier elements dispersed evenly from the core to the surface.
17. Evidence for the theory of plate tectonics includes
    * 1. Deposits of copper ore around the globe
      2. Identical rock formations on both sides of the Atlantic
      3. Fossil of the same species on distant continents
    1. I only
    2. I and III only
    3. II and III only
    4. I and II only
    5. I, II, and III
18. Which type of mining is usually most directly harmful to miners?
    1. Mountaintop removal
    2. Open-pit mining
    3. Place mining
    4. Strip mining
    5. Subsurface mining
19. Measured on the Richter scale, an earthquake with magnitude of 7.0 is \_\_\_\_\_\_times greater that a earthquake with magnitude of 2.0
    1. 10
    2. 100
    3. 1,000
    4. 10,000
    5. 100,000

***For questions 15-18, select form the following choices:***

1. Seismic activity center
2. Divergent plate boundary
3. Convergent plate boundary
4. Transform fault boundary
5. Epicenter
6. At which type of boundary do tectonic plates move sideways past each other?
7. At which type of boundary does subduction occur?
8. At which type of boundary does seafloor spreading occur?
9. Which term refers to the point on Earth’s surface directly above an earthquake?
10. Fossil records are found in
    1. Intrusive rock
    2. Extrusive rock
    3. Igneous rock
    4. Metamorphic rock
    5. Sedimentary rock
11. Which of the following statements about soil is NOT correct?
    1. Soil is fairly static and does not change
    2. Soil is the medium for plant growth
    3. Soil is a primary filter of water
    4. A wide variety of organisms live in the soil
    5. Soil plays an important role in biogeochemical cycles

***Write your answer to ach part clearly, Support you answers with relevant information and examples. Where calculations are required, show your work.***

1. The rock cycle plays an important role in the recycling of Earth’s limited amounts of mineral resources.
   1. The mineral composition of rock depends on how it is formed. Name the 3 distinct rock types, explain how each rock type is formed, and give one specific example of a rock of each type. (6 points)
   2. Explain either the physical or the chemical weathering process that leads to the breakdown of rocks. (2 points)
   3. Describe the natural process that can lead to the formation of soil, and discuss how human activities can accelerate the loss of soil. (2 points)