1. Terminology: **Define/describe** 10 of the following (you may answer up to two extra; 2 pts. a piece, 20 pts. total; 24 pts. possible if you answer 12)

Riparian

Ecotone

Neritic zone

Epiphyte

Littoral zone

Limnetic zone

Homeothermy

Endothermy

Conduction

Humidity

Transpiration

Convection

Torpor

Aestivation

Topographic relief
2. Pick five of the six following biomes and provide details (enough to distinguish them) about the rainfall regime, temperature regime, and soil quality (5 pts. a piece). Indicate a place (be rather specific) on the face of the globe that you would find each of the five biomes you choose (1 pt. a piece, 5 pts.).

Mediterranean

Taiga

Tropical Dry Forest

Temperate grasslands/prairies

Desert

Alpine Tundra
**TRUE-FALSE (2 pts. a piece):**

3. Most marine invertebrates need to expend some energy to maintain water balance.

4. The hadal zone is just above the benthos of the deepest abysses in the ocean.

5. There are some mammals that are so efficient at water conservation that they do not have to drink.

6. The two most important factors controlling the composition of species in a terrestrial biome are the amount/timing of precipitation and the salinity of the soils.

7. Light energy is the source of energy for all living things on the planet.

8. Rock intertidal zones tend to be more diverse than sand intertidal zones within the same set of climatic conditions.

9. >5% of the water on the planet is available to life in the freshwater lakes, rivers, and streams on the face of the planet.

10. There is more than 1,000,000,000,000 km³ of water in the oceans, and yet the turnover time for the entire ocean volume is less than 3,500 years.

**Fill-in-the-Blank (2 pts. a piece):**

11. The layer of nearly solid material with groundwater flow underneath the “muck” at the bottom of a stream is called the ___________________ zone.

12. Species which are sensitive to even small alterations of natural conditions in a given ecosystem, and that disappear when conditions do change, are called ___________________ species, since their presence shows how pristine the ecosystem has remained.

13. ___________ photosynthesis is typical of plants that grow in hotter and drier climates.

14. ___________ is a major force in maintaining grasslands, since this factor removes trees before they can get a strong root hold.

15. _______________ is the one biome that is increasing in area because of human activity.

**Answer each of the following questions:**

16. Explain the connection between kelp/coral reefs in the neritic zone, and salt marsh/mangrove forests in the intertidal zone, respectively. (4 pts.)
17. Look at the following climate diagram, then answer the following questions based on the diagram.

![Climate Diagram]

a. Is this a climate diagram for a temperate or tropical biome? (2 pts.)

b. Is this a diagram for a biome in the northern or southern hemisphere? (2 pts.)

c. What type of biome is this climate diagram most likely representing, and why? (4 pts.)

18. EXPLAIN 2 (two) real life examples of water conservation adaptations in terrestrial environments for each of the following:
   - Plants:
   - Animals:

You MUST include the actual names of the organisms involved. (8 pts.)
19. What is the main advantage of maintaining a constant body temperature? What are a couple of different ways in which those organisms who can’t maintain a constant body temperature overcome the problem of non-constancy of internal heat? (4 pts.)

Extra Credit: Pick 1 (ONE) of the following to answer

1. Explain why epiphytes grow where they do, and indicate what the main way epiphytes can, in turn, damage their “host.” (4 pts.)

2. If you had the following data set, would it be appropriate to say that trunk diameter of the specific tree indicated is proportionally larger in taller trees? If so, why do you think this helps the tree species from an ecological perspective? (4 pts.)

Data for the Quercus nigra (Water Oak, a common species around here)

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<th>Diameter (cm)</th>
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<tbody>
<tr>
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