Plant Physiology – Biol327 name _____

Quiz: Plant Way of Life

Fill-in-the-Blank: *Complete the following with the appropriate choice:*

a. thigmomorphogenesis
b. skototropism
c. apical dominance
d. heterophylly
e. dendritic
f. phototropism
g. phyllotaxy
h. gravitropism
i. solar tracking
j. leaf mosaics
k. etiolation

1. _____ growth response to touch
2. _____ results in shorter plants with thicker stems
3. _____ common in plants at treeline
4. _____ growth toward a darkened region of the environment
5. _____ bending toward the light
6. _____ method used by tropical vines to find a support
7. _____ results in Christmas tree shape of plant
8. _____ prevents top heaviness and light to reach lower leaves & branches
9. _____ leaves on plant with different shapes
10. _____ leaves minimize overlapping one another
11. _____ flowers follow movement of sun
12. _____ plant response to the dark
13. _____ leaf arrangement on a plant
14. _____ branched, tree-like form

Short Answer

1. What is etiolation?

2. In what way(s) is a plant like a building?

3. In what way(s) are non-motile animals (such as coral) like a plant?

4. In what way(s) can plants be considered to forage for food?

5. What is the difference between a physical and biological danger? Give an example of each.

6. What is a type III survivorship curse? How does it relate to the 'plant way of life'?

7. Provide examples of how plants defend themselves.

8. Why are plants not limited by size but animals are?

Structures for Photosynthesis:

1. Explain why leaves are broad AND thin?

2. Offer an explanation for why cell walls evolved.

Leaves as Photosynthetic Structures: *For each of the following structures, identify its function as it relates to photosynthesis.*

1. chloroplasts
2. cuticle
3. guard cell
4. palisade layer
5. spongy layer
6. stoma
7. vascular tissue - xylem
8. vascular tissue - phloem

Nutritional Variations Question: *Plants exhibit a variety of modifications of the typical mechanism of autotrophic nutrition. Define each of the following and give an example of each.*

1. mycotroph
2. holoparasite
3. hemiparasite
4. autotroph
5. heterotrophy
6. epiphyte

Surface/Volume Ratio Question:

1. Consider a box that is 3 x 4 x 6 mm. Calculate the surface area _____, volume _____, and surface/volume ratio _____.

2. Compare and contrast the shape of leaves of aquatic plants (hydric), plants growing in a mesic environment such as here in central Minnesota, and cacti (xeric) and relate to s/v ratios.