

Part I. Multiple choice(s)/true-false and short answer questions (5% each; no partial credits).

1. Decomposers convert nitrogen compounds into ammonia is the definition of (a) nitrogen fixation (b) ammonification (c) denitrification (d) nitrogen assimilation (e) nitrification
2. What type(s) of the plant functional type is adapted to a dry condition? (a) sclerophylls (b) heliophytes (c) helophytes (d) xerophytes (e) sciophytes
3. The major difference between tropical rainforest and tropical monsoon (dry) forest is the annually received precipitation. (a) True (b) False
4. What could be potential reason(s) resulting in the irreversible successional responses to disturbance? (a) wildfire (b) climate change (c) flood (d) alien species invasion (e) windstorm
5. The returned ecosystem from disturbance in the era of climate change is commonly known as: Novel ecology or novel ecosystem
6. Order from dry to wet climates:
(a) Savanna grassland (b) tropical scrub (c) tropical desert (d) equatorial rainforest (e) savanna woodland
7. Bamboo is a (a) tree (b) alleopathic plant (c) herbaceous plant (d) woody plant (e) succulent plant
8. What are the main plant physiological symptoms resulting in massive tree mortality in the past 20+ years? (a) hydraulic failure (b) nutrient shortage (c) carbon starvation (d) xylem decomposition (e) photosynthesis failure
9. A dominant species is also known as a keystone species that has a disproportionately large effect on its environment relative to its abundance. (a) True (b) False
10. Liana is a woody species commonly found in tropical forests. (a) True (b) False

Part II. Short essays (10% each)

11. Define and differentiate the following terms: Erosion and weathering.
12. Define and differentiate the following terms: Uniformitarianism and Catastrophism.
13. Define and explain the five interrelated factors that determine soil.
14. Define the Milankovitch cycles and explain its impact on the watershed hydrology.
15. Derive stream power (Ω) using the concept of potential energy.

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