Questions Ecology

1. Give the definition of Ecology. The scientist, who firs mentioned it.
2. The scheme of an atom. Nuclear Stability and Radioactivity
3. The Sun, Fusion and Stellar Evolution.
4. The Formation of the Solar System.
5. Organic Compounds (the four major categories).
6. The Earth: Atmospheric Composition and Chemistry.
7. The Earth: Atmospheric Structure.
8. The Earth: lithosphere. How does earth’s interior work?
9. Soil: Soil formation, organic matter, important properties.
10. Main properties of water.
11. The origin of life: Top-down and Bottom-Up approaches.
12. The main characteristics of living organisms.
13. Geological Eons and Eras.
14. Name 3 types of environmental factors and explain them.
15. Victor Shelford and his “law of tolerance”.
16. The ecological niche.
17. The key ideas of the natural selection theory.
18. What are the **Major Biogenic Elements or Organogens? The role of carbon (as element) for the biosphere.**
19. Give the definition and draw the principal scheme of an ecosystem. Name the biggest ecosystem.
20. Draw schematically the Nitrogen cycle
21. Draw schematically the Water cycle
22. Draw schematically the Carbon cycle.
23. Draw schematically the Phosphorus cycle.
24. The photosynthesis for green plants and bacteria.
25. What is an ecological succession? The two types of ecological succession.
26. What is a trophic chain, a trophic web, a trophic level? What is the “rule of 10%” for trophic levels?
27. The classification of organisms according to their trophic (food) specialties.
28. Give the definition of a population. Name the main characteristics of a population.
29. What are positive and negative biological interactions?
30. Name 3 the most important ecological ages (in population).
31. The difference between r- and K- strategies of survivorship.
32. The development of human population