**Questions for the EXAM**

1. Give the definition of Ecology, who first mentioned the word “Ecology”?

2. Name 5 applied ecology disciplines and give them short characteristic.

3. Give the definition of an ecosystem

4. Give the definition of a biosphere

5. Give the definition of the Autecology

6. Give the definition of the Synecology

7. Name the main levels of living matter organization

8. Name the main characteristics of living things

9. Age of the Earth? Name the main geological eras.

10. The main difference between prokaryotic and eukaryotic cells

11. At what era the first life appeared? What characteristics did it (first cell) have?

12. At what era the first mammals evolved? Give the name of our(today’s) geological era.

13. Name 3 the most common chemical elements in the atmosphere

14. Name the main layers of the atmosphere.

15. Describe the troposphere and the stratosphere

16. Describe the mesosphere and the thermosphere.

17. Give the definition of the hydrosphere. How big is its surface area?

18. Name two the most important kinds of chemical bonds presented in water.

19. The specific heat of water.

20. Describe the water properties at different temperatures. At what temperature water has the highest density?

21. Describe the structure of the lithosphere.

22. Name 3 the most common chemical elements in the lithosphere.

23. Describe the igneous, metamorphic, sedimentary rocks.

24. What the soil is? Name the main properties.

25. What is the biocenosis, biotope, biosphere?

26. What is the difference between the great geological cycle and the small biotic circulation?

27. What are the Biogenic Elements?

28. Name the Major Biogenic Elements.

29. Name the Minor Biogenic Elements.

30. Describe (and draw a scheme) of the water cycle.

31. Describe (and draw a scheme) of the carbon cycle.

32. Describe (and draw a scheme) of the nitrogen cycle.

33. Describe (and draw a scheme) of the phosphorus cycle.

34. What the photosynthesis is? Write the main equation for plant photosynthesis.

35. What the bacterial photosynthesis is? Write the main equation for bacterial photosynthesis.

36. What process is opposite for photosynthesis? Write the schematic equation.

37. What is the food chain, the food web? Write an example.

38. How all organisms can be divided according to the trophic relations?

39. Draw the scheme of trophic relations in the biosphere.

40. What is the ecological pyramid? What types it can be?

41. What is the “rule of 10%” for trophic levels?

42. What is a Biome? What types of biomes do you know?

43. What is the ecological succession? What is the primary succession? Give an example.

44. What is the secondary ecological succession? Give an example.

45. Give the definition of a population. Name the main characteristics of a population.

46. What are the curves of survival? Draw the picture.

47. Which kinds of environmental factors you do know?

48. What are the positive and negative biological interactions?

49. Draw a scheme of the « Law of Tolerance »

50. What is a pollutant? What is an environmental pollution?

51. Name and give short descriptions of the pollution categories.

52. What is the natural, the anthropogenic pollution?

53. What are the primary and secondary pollution?

54. What is the radioactivity? Name the main natural and anthropogenic sources.