

Lista zagadnień na egzamin dyplomowy

dla kierunku Biologia II stopnia, sp. Palaeobiology

1. Methodology and methodics
2. Rules for providing discussions
3. Ways of inference and their cognitive value
4. Main logical mistakes

5. Science and other areas of knowledge

6. Define the terms ventral and cranial

7. Define the terms dorsal and caudal

8. How many temporal openings are preserved in a diapsid skull?

9. How many temporal openings are preserved in an anapsid skull?

10. What is a “holotype”?

11. Show the difference between: species and spices

12. Define the term marine

13. What are “modes of nutrition”?

14. What is a “carnivore”?

15. What is palaeobiogeography?

16. Methods of the interpretation of the geographical distributions of organisms

17. Main factors which impact on the distribution of organisms

18. Main principals of the palaeobiogeographical reconstruction

19. Significance of the geographical distribution of the extinct fossils for the palaeogeographical reconstruction of Earth in the geological past

20. Palaeontology as a basic discipline of geology

21. History of palaeontology and connection with other biological and geological disciplines.

22. Geological time and the stratigraphic chart.

23. Main methods in palaeontology.

24. What are fossils and what is their significance.

25. General characteristic of selected fossil groups of organisms.

26. Biostratigraphy and correlation.

27. Origin of invertebrates

28. The variability of fossilized sponges

29. Evolution of corals

30. General characteristics of mollusks

31. Trilobites: origination, development, extinction

32. The variability of fossilized Echinodermata

33. Brachiopoda and Briozoa. General characteristic.

34. The subject of palaeoecology.

35. Methods of palaeoecological reconstructions.

36. The importance of extinct organisms for the environmental reconstruction.

37. Lithology and environmental interpretation.

38. Ecosystem stratigraphy

39. Biochemistry as a tool for studying ancient ecosystems.

40. Principles of stratigraphy

41. Basics of paleogeography

42. Index fossils for every period of the Earth history

43. Mutual relationships between the evolution of life and biosphere through the deep time.

44. Fossils: mold fossils, cast fossils, trace fossils, true form fossils.

45. Chemical and mineral compounds of true form fossils

46. Physical and chemical properties of fossils

47. State of preservation of true fossils.

48. Chemical and physical properties of the fossil bearing sediments.

49. Tools and methods of mechanical preparation.

50. Chemical preparation.

51. Special method of preparation (latex molds, X-rays, UV rays, series of sections).

52. Conservation of fossils.

53. General characteristics of the most important group of microfossils

54. Examples of microfossils used in stratigraphy and palaeoecological analysis

55. Identification of microfossils

56. Practical use of the biostratigraphical and palaeoecological methods

57. Systematics of plants

58. Evolution of plants throughout the history of the Earth

59. Main stages in evolution of plants

60. Basic features for recognition of the extinct plants

61. Present short main groups of dinosaurs.

62. Describe a group Placodermi.

63. Position of synapsid and origin and evolution of mammals.

64. Describe the main taxa of vertebrates known from Krasiejów.

65. The evolution of birds, position of *Archaeopteryx*.

66. The importance of statistics in biological sciences.

67. Variability in biology; measures of central tendency and dispersion.

68. Basic parametric and non-parametric tests.

69. Research planning for statistical analyzes.

70. Neutral mechanisms of evolution

71. Evolutionary strategies an evolutionarily stable strategy

72. Sexual selection - evolutionary assumptions and consequences

73. Altruism in evolutionary biology

74. Social animals and the criteria of eusociality; the influence of kinship on the behavior of individuals.

75. Molecular clock in biological research.

76. Practical applications of DNA barking (in phylogenetics, phylogeography, ecology, research on biodiversity, conservation biology and in forensic biology).

77. Computer programs that enable the use of nucleic acid sequences in biological sciences.