

BAKU STATE UNIVERSITY

SPECIALIZATION: Teaching mathematics. SUBJECT: Methods of teaching mathematics – 1

EXAM QUESTIONS

1. Goals of mathematics education.
2. Structure of mathematics education.
3. Main directions of development of mathematical education.
4. Humanization of mathematical education.
5. Subject of methods of teaching mathematics.
6. Objectives of mathematics teaching methods.
7. Connection of methods of teaching mathematics with other sciences.
8. The principle of science in teaching mathematics.
9. The principle of systematicity and consistency in teaching mathematics.
10. The principle of consciousness, activity and accessibility in mathematics education.
11. The principle of visualization in teaching mathematics.
12. Classification of teaching methods.
13. Disadvantages of traditional training.
14. Features of modern teaching methods.
15. Characteristics of active learning.
16. The role of methods of analysis and synthesis in teaching mathematics.
17. The role of comparison in teaching mathematics.
18. The role of induction and deduction in teaching mathematics.
19. The role of abstraction and generalization in teaching mathematics.
20. The essence of the concepts motive and motivation.
21. Signs of cognitive motivation of students.
22. Content and scope of the concept.
23. Definition of the concept and types of definitions.
24. Methods of teaching concepts.
25. Requirements for the definition of the concept.
26. Methods of teaching algorithms and rules.
27. Types of algorithms. Algorithmic prescription.
28. Stages of the process of introducing the algorithm and rules.
29. Structure of the theorem. Types of theorems and connections between them.
30. The process of proving the theorem. Types of evidence.
31. Requirements for argument and thesis.
32. Methods of teaching theorems.
33. Components of a mathematical problem. Various classifications of mathematical problems.
34. The process of solving a problem and its stages.
35. The essence of the concepts of “complex” and “difficult” tasks.
36. Functions of mathematical problems.
37. Components of diagnostics of knowledge and skills and the main functions of diagnostics.
38. Control and its capabilities.
39. Indicators identified in the control process.
40. The essence of the concepts of “assessment” and “assessment”.
41. Requirements for organizing mathematics teaching.
42. Forms of organization of teaching mathematics.
43. Requirements for a mathematics lesson.

44. Possibilities of the class-lesson system.
45. Types of mathematics lessons according to basic didactic goals.
46. Definitions given to the concept of educational technology.
47. Requirements for pedagogical technologies.
48. Types of educational technologies.
49. Problem-based learning technology.
50. Extracurricular work in mathematics.
51. Modern pedagogical technologies.
52. Principles of mathematics education.
53. The place of methods of scientific knowledge in teaching mathematics.
54. Motivation of educational activities of students in learning mathematics.
55. Methods for studying mathematical concepts.
56. Contents and objectives of the course on methods of teaching mathematics at a university.
57. Methodology for studying theorems in a school mathematics course.
58. Classification of mathematical problems.
59. Problem solving process and its organization.
60. Diagnostics of knowledge, skills and abilities of students.
61. Forms of organization of teaching mathematics.
62. Goals and place of mathematical education in general education.