Lesya Ukrainka Volyn National University
Faculty of Biology and Forestry
Department of Zoology
Department of Botany and Methods of Teaching Natural Sciences
Institute of Evolutionary Ecology of the National Academy of Sciences of Ukraine

K. B. Sukhomlin, O. P. Zinchenko,
M. M. Sukhomlyn, M. O. Zinchenko

METHODOLOGY AND ORGANISATION OF SCIENTIFIC RESEARCH IN THE FIELD OF BIOLOGY

(for international students)

Test tasks

Lutsk – 2023

УДК 331.87: 001.891 (076)
С 91

Recommended for publication by the Scientific and Methodological Council Lesya Ukrainka Volyn National University Protocol No. 4 dated December 20, 2023.

Reviewer:

Kachynska T. V. - Associate Professor, Head of the Department of Human and Animal Physiology, guarantor of the EPP in the specialty 091 «Biology and Biochemistry» with a specialisation in «Laboratory Diagnostics» at Lesya Ukrainka Volyn National University, Candidate of Biological Sciences.

Sukhomlin K. B., Zinchenko O. P., Sukhomlyn M. M., Zinchenko M. O.

С 91 Methodology and organisation of scientific research in the field of biology (for foreign students)**:** Test tasks. – Lutsk, 2023. 46 p.

The publication contains 315 test tasks from different sections of the normative course «Methodology and Organisation of Scientific Research in Biology», provided by the curriculum for Master's degree in 091 «Biology and Biochemistry», answers to them, a list of recommended reading and Internet resources. The tests are intended for intermediate and final control of students' knowledge.

УДК 331.87: 001.891 (076)

PREFACE

The test tasks «Methodology and organisation of scientific research in the field of biology» are intended for students of biological faculties of the educational qualification level «Master» of speciality 091 «Biology and biochemistry».

The trend towards integration into the international educational space has necessitated the introduction of a test-based knowledge control system. The implementation of this system has several goals. It creates conditions for accumulating information about the effectiveness of teaching material in a particular discipline and ways to optimise it; allows for an objective assessment of each student's level of training; increases students' interest in the subject; and serves as a learning algorithm.

In the study guide, the test tasks are divided into two modules: «Science and its organization» and «Scientific ethics». These include reproductive questions in which it is necessary to select one or more correct answers, as well as questions that require a thorough acquaintance with the basic definitions, provisions and classifications of science and involve the use of acquired knowledge or students' creativity. All tests, regardless of the level of difficulty, do not go beyond the content of the programme of the normative course «Methodology and Organisation of Scientific Research in Biology». Test tasks are intended for intermediate (module) and final (examination) control of students' knowledge. They are adapted for use in the testing systems used at Lesya Ukrainka Volyn National University.

MODULE 1.
SCIENCE AND ITS ORGANISATION

1. Choose the main achievements of science in the twentieth century: 1) nuclear energy, 2) nanotechnology, 3) television, 4) supercomputers, 5) radar.

2. Choose the main achievements of science in the twentieth century: 1) supersonic aviation, 2) polymers, 3) fibre optics, 4) the use of electromagnetic field, 5) laser technology.

3. Choose the main achievements of science in the twentieth century: 1) robotics, 2) cellular communication, 3) DNA structure, 4) integrated circuits, 5) cloning.

4. Choose the main achievements of science in the twentieth century: 1) genetic engineering, 2) organ transplantation, 3) synergetics, 4) holography, 5) stem cell therapy.

5. Choose the main achievements of science in the twentieth century: 1) the use of torsion fields, 2) fractal geometry, 3) the Internet, 4) alternative computers, 5) synergetics.

6. The interdisciplinary science that studies the processes of self-organisation and the emergence, maintenance of stability and decay of structures (systems) of different nature based on the methods of mathematical physics is called: 1) theoretical physics, 2) synergetics, 3) fractal geometry, 4) mathematical physics, 5) futurology.

7. The founders of synergetics are: 1) Epicurus, 2) Carus Lucretius, 3) Hacken, 4) B. Mandelbort, 5) A. Svidzinski.

8. The founder of fractal geometry is: 1) Epicurus, 2) Carus Lucretius, 3) G. Hacken, 4) B. Mandelbort, 5) A. Svidzinski.

9. The science that describes the orderly chaos of nature and demonstrates the principle of infinite embedding of self-similar structures in each other on the basis of simple mathematical relations is called: 1) theoretical physics, 2) synergetics, 3) fractal geometry, 4) mathematical physics, 5) futurology.

10. Select the priority areas of applied research: 1) faunal, 2) non-traditional energy sources, 3) floristic, 4) astronomy and astrophysics, 5) biotechnology.

11. Select the priority areas of applied research: 1) ecology and environmental management, 2) new materials and chemical products, 3) agricultural technologies, 4) communication technologies, 5) nature protection.

12. Select the priority areas of applied research: 1) medicine and medical equipment, 2) automotive industry, 3) resource and energy-saving and environmentally friendly technologies, 4) traditional energy sources, 5) basic research.

13. Choose the reasons for the emergence of science in ancient times: 1) the need to generalise theoretical material, 2) the needs of social practice, 3) explanation of natural phenomena, 4) transformation of the world around us, 5) transfer of knowledge to future generations.

14. In ancient times, the main method of scientific knowledge transmission was: 1) "horizontally", 2) "vertically", 3) from teacher to student, 4) from father to son, 5) "in a circle".

15. Select the features of proto-scientific knowledge: 1) the study of individual disciplines, 2) the study of nature as a whole, 3) driven by the needs of practice, 4) driven by the need for theoretical generalisation, 5) division into separate branches.

16. Aristotle divided science into: 1) natural science, 2) philosophy, 3) mathematics, 4) physics, 5) metaphysics.

17. Select the historical stages of science development: 1) science of the Ancient World, 2) science of the Renaissance, 3) science of the Middle Ages, 4) European science, 5) scientific revolution, 6) Arab science, 7) industrial revolution, 8) science of the twentieth century.

18. Name the number of periods of development of natural science: 1) two, 2) three, 3) four, 4) five, 5) six.

19. Select the features of the first period of development of natural science: 1) begins in the second half of the XV century, 2) begins in the XVII-XVIII centuries, 3) experimental method is introduced, 4) laws of gravity are discovered, 5) basic laws

of heredity are discovered, 6) mathematics is the science of scalar quantities, 7) the law of conservation and transformation of energy is discovered, 8) the electron is discovered.

20. Select the features of the second period of development of natural science: 1) begins in the second half of the fifteenth century, 2) begins in the seventeenth and eighteenth centuries, 3) begins in the late nineteenth and early twentieth centuries, 4) the experimental method is introduced, 5) the basic laws of heredity are discovered, 6) mathematics is the science of scalar quantities, 7) the law of conservation and transformation of energy is discovered, 8) the electron is discovered.

21. Select the features of the second period of development of natural science: 1) the foundations of quantum mechanics were laid, 2) the evolutionary theory was formulated, 3) molecular biology developed, 4) the experimental method was introduced, 5) the basic laws of heredity were discovered, 6) mathematics became the science of scalar quantities, 7) the electron was discovered, 8) the law of conservation and transformation of energy was discovered.

22. Select the features of the third period of development of natural science: 1) the foundations of quantum mechanics were laid, 2) the evolutionary theory was formulated, 3) molecular biology developed, 4) the experimental method was introduced, 5) the basic laws of heredity were discovered, 6) mathematics became the science of scalar quantities, 7) the law of conservation and transformation of energy was discovered, 8) the electron was discovered.

23. Select the features of the current stage of development of science: 1) isolation of individual disciplines, 2) integration of disciplines, 3) formation of new scientific disciplines, 4) production is ahead of the development of science, 5) convergence of science with social practice and production.

24. Scientific research begins: 1) choosing a topic, 2) literature review, 3) determining research methods, 4) obtaining a research grant, 5) choosing a place for the experiment.

25. How are the object and subject of research related: 1) not related to each

other, 2) the object contains the subject of research, 3) the object is part of the subject of research, 4) the object is opposed to the subject of research, 5) the object duplicates the subject of research.

26. The choice of a research topic is determined by: 1) relevance, 2) reflection of the topic in the literature, 3) interests of the researcher, 4) availability of funds for research, 5) interests of the public.

27. The research objective statement answers the questions: 1) what is being researched? 2) why is it being researched? 3) by whom is it being researched? 4) when is it being researched? 5) where is the research being conducted?

28. Tasks are stages of work: 1) to achieve the goal, 2) complementary to the goal, 3) for further research, 4) related to the choice of the research object, 5) related to the choice of the research subject.

29. Methods of biological research are divided into: 1) general, 2) special, 3) constructive, 4) destructive, 5) fractal.

30. Which of the following methods are theoretical: 1) analysis and synthesis, 2) abstraction and concretisation, 3) observation, 4) hypothetical and deductive, 5) systematic.

31. The state system of scientific and technical information includes: 1) state bodies of scientific and technical information, 2) libraries, 3) archives, 4) private collections, 5) publishing houses.

32. The sphere of human activity aimed at developing new knowledge about nature, society and thinking is called: 1) science, 2) education, 3) technology, 4) religion, 5) philosophy.

33. The basis and driving force of cognition, which provides science with factual material that requires theoretical understanding, is called: 1) theory, 2) practice, 3) scientific knowledge, 4) law, 5) logic.

34. The process of interaction between subject and object, which results in new knowledge about the world, which has a two-circuit structure: empirical and theoretical knowledge, which exist in close interaction and interdependence, is called: 1) science, 2) education, 3) cognition, 4) hypothesis, 5) philosophy.

35. The dialectic of the process of cognition consists in: 1) the unity of our knowledge with the infinite complexity of objective reality, 2) the contradiction between the limited nature of our knowledge and the infinite complexity of objective reality, 3) the unity of the struggle of opposites, 4) the contradiction between the high level of knowledge and the imperfection of existence, 5) the contradiction between knowledge in different fields.

36. Choose three stages of hypothesis development: 1) accumulation of factual material, 2) making assumptions, 3) accumulation of factual material and making assumptions on its basis, 4) formulation of a hypothesis and justification on the basis of an acceptable theory, 5) verification of the results obtained in practice and refinement of the hypothesis on its basis.

37. Select the condition under which a hypothesis becomes a scientific theory: 1) the facts refute the assumption, 2) the result is true when tested, 3) the result is not true when tested, 4) the facts partially confirm the assumption, 5) the result of the test does not satisfy the researcher, 6) the result of the test satisfies the researcher.

38. Select the requirements for a scientific theory: 1) adequacy of the scientific theory to the object described, 2) possibility of replacing experimental research with theoretical research, 3) impossibility of replacing experimental research with theoretical research, 4) completeness of the description of a certain phenomenon of reality, 5) partial description of a certain phenomenon of reality.

39. Select the requirements for a scientific theory: 1) adequacy of the scientific theory to the object described, 2) absence of interconnections between different components within the theory, 3) possibility of explaining interconnections between different components within the theory, 4) possibility of partial inconsistency between the theory and facts, 5) internal consistency of the theory and its correspondence to research data.

40. An intuitive explanation of a phenomenon (process) without intermediate argumentation, without awareness of the entire set of connections on the basis of which a conclusion based on available knowledge is made, is called: 1) hypothesis, 2) scientific idea, 3) law, 4) judgement, 5) inference.

41. A scientific assumption put forward to explain any phenomena (processes) or causes that lead to a certain consequence is called: 1) hypothesis, 2) scientific idea, 3) law, 4) judgement, 5) inference.

42. The internal essential relationship of phenomena that determines their natural development is called: 1) hypothesis, 2) scientific idea, 3) law, 4) analysis, 5) synthesis.

43. A thought in which something is affirmed or denied by means of a connection of concepts is called: 1) judgement, 2) inference, 3) law, 4) hypothesis, 5) idea.

44. The mental operation by which another judgement is derived from a certain number of given judgements, which is in some way related to the original one, is called: 1) judgement, 2) inference, 3) theory, 4) hypothesis, 5) idea.

45. A doctrine, a system of ideas, views, positions, statements aimed at interpreting a particular phenomenon is called: 1) judgement, 2) inference, 3) theory, 4) hypothesis, 5) faith.

46. The sphere of human activity aimed at developing new knowledge about nature, society and thinking, reflecting a certain set of theories, is called: 1) science, 2) logic, 3) scientific knowledge, 4) practice, 5) faith.

47. The regularities of functioning and development of science, the structure and dynamics of scientific knowledge and scientific activity, the interaction of science with other social institutions and spheres of material and spiritual life of society are studied by the discipline: 1) logic, 2) practice, 3) science, 4) scientific knowledge, 5) faith.

48. The main tasks of science include: 1) development of a classification of sciences, 2) determination of the place of each science in the general system of scientific knowledge, the relationship of all sciences, 3) awareness of ignorance, 4) acquisition of new knowledge, 5) obtaining new resources.

49. A study that has a goal, objectives, methods of obtaining and testing new knowledge, which reaches the essence of phenomena, reveals the laws of their existence and development, indicates to practice the possibilities, ways and means

of influencing phenomena and changes in accordance with their objective nature is called: 1) practice, 2) theory, 3) cognition, 4) scientific knowledge, 5) synergetics.

50. The system of views, theoretical positions, basic ideas about the object of study, which are united by a certain main idea, is called: 1) scientific concept, 2) conceptuality, 3) principle, 4) concept, 5) term.

51. The definition of the content, essence, meaning of what is being discussed is called: 1) scientific concept, 2) conceptuality, 3) principle, 4) concept, 5) term.

52. A rule that has arisen as a result of objectively meaningful experience, the most abstract definition of an idea, is called: 1) scientific concept, 2) conceptuality, 3) principle, 4) concept, 5) term.

53. An idea reflected in a generalised form, which reflects the essential and necessary features of objects and phenomena, as well as interrelationships, is called: 1) scientific concept, 2) scientific fact, 3) principle, 4) concept, 5) term.

54. A concept that has entered scientific circulation and is denoted by one word or a set of words is called: 1) scientific concept, 2) scientific fact, 3) principle, 4) concept, 5) term.

55. Disclosure of the content of a concept, term is called: 1) scientific concept, scientific fact, 3) principle, 4) concept, 5) term, 6) definition.

56. Choose the two most important requirements that the definition meets: 1) indicates a similar concept, 2) indicates the closest generic concept, 3) indicates common features of similar concepts, 4) indicates distinctive features of similar concepts, 5) indicates how this concept differs from other concepts.

57. The conceptual apparatus of a particular science is a set of: 1) theories, 2) facts, 3) principles, 4) notions, 5) concepts, 6) hypotheses.

58. An event or phenomenon that is the basis for a conclusion or statement, an element that, together with others, forms the basis of scientific knowledge, reflects the objective properties of phenomena and processes and on its basis determines the regularities of phenomena, builds theories and derives laws, is called: 1) scientific concept, 2) scientific fact, 3) principle, 4) concept, 5) term.

59. The doctrine of the principles, forms and methods of scientific research activity is called: 1) scientific concept, 2) methodology, 3) method, 4) scientific activity, 5) scientific research.

60. A method of achieving a goal, a set of techniques and operations of theoretical and practical development of reality, a means of obtaining scientific facts, is called: 1) scientific concept, 2) methodology, 3) method, 4) scientific activity, 5) scientific research.

61. Purposeful cognition, the results of which are in the form of a system of concepts, laws and theories, is called: 1) scientific concept, 2) methodology, 3) method, 4) scientific activity, 5) scientific research.

62. Select the forms of scientific research: 1) scientific and organisational, 2) fundamental, 3) applied, 4) scientific and informational, 5) scientific and auxiliary.

63. The subjects of scientific activity are: 1) scientists, 2) researchers, 3) technicians, 4) research and teaching staff, 5) research and support staff.

64. A person who carries out scientific research is called: 1) researcher, 2) scientist, 3) scholar, 4) scientific worker, 5) citizen.

65. A person who is involved in science, produces new knowledge, and is a specialist in a particular field of science is called: 1) researcher, 2) scientist, 3) scholar, 4) scientific worker, 5) citizen.

66. A natural person who conducts fundamental and (or) applied scientific research with the aim of obtaining scientific and (or) scientific and technical results is called: 1) researcher, 2) scientist, 3) scholar, 4) scientific worker, 5) citizen.

67. A person who, at the main place of work and in accordance with the employment agreement (contract), is professionally engaged in scientific, scientific and technical or scientific and pedagogical activities and has the relevant qualification confirmed by the results of certification, is called: 1) researcher, 2) scientist, 3) scholar, 4) scientific worker, 5) citizen.

68. An informal creative team of researchers of different generations, united by a common programme and style of research work, acting under the guidance of a recognised leader, is called: 1) research team, 2) research school,

3) academic council, 4) departmental team, 5) faculty team.

69. Select the main functions of a scientific school: 1) production of scientific knowledge, 2) statement of known scientific facts, 3) dissemination of scientific knowledge, 4) conferences, 5) training of gifted students.

70. Select the main functions of a scientific school: 1) teaching, 2) research and training, 3) communication, 4) reproduction, 5) educational work.

71. Select the characteristics of a scientific school: 1) long-term scientific productivity, 2) insignificant scientific productivity, 3) members of the scientific school are authors of fundamental scientific works, 4) members of the scientific school are members of editorial boards of leading professional journals and collections, 5) members of the scientific school are known to a narrow circle of colleagues.

72. Select the characteristics of a scientific school: 1) preservation of traditions and values, 2) ensuring continuity of scientific research, 3) absence of a single style of scientific work, 4) development of an atmosphere of creativity and innovation, 5) the leader does not allow discussions, 6) openness to scientific discussions.

73. Select the characteristics of a scientific school: 1) association of talented scientists who follow the leader, 2) association of all scientists in the same field, 3) constant renewal by gifted students, 4) a narrow circle of specialists, 5) constant communication between teacher and students, 6) no communication between teacher and students.

74. Select the characteristics of a scientific school: 1) no pedagogical activity, 2) active pedagogical activity, 3) official recognition by the state of the importance of scientific research, 4) the importance of scientific research is understood only by scientists, 5) the school should have only one doctor of science in the speciality, 6) the school should have at least three doctors of science in the speciality.

75. Select the characteristics of a scientific school: 1) a narrow circle of specialists, 2) effective assimilation and research of topical issues put forward by the head, 3) long-term scientific productivity, 4) existence of three generations of researchers, 5) a key figure - a leader, 6) constant renewal by gifted students.

76. New knowledge obtained in the course of fundamental or applied scientific research and recorded on scientific information carriers in the form of a scientific report, scientific paper, scientific report, scientific report on a research work, monographic study, scientific discovery, etc. is called: 1) scientific concept, 2) scientific result, 3) scientific activity, 4) scientific research.

77. Which of the following methods are theoretical: 1) measurement, 2) experiment, 3) forecasting, 4) analysis of variance, 5) systematic.

78. Which of the following methods are empirical: 1) measurement, 2) experiment, 3) forecasting, 4) analysis of variance, 5) systematic.

79. Which of the following methods are empirical: 1) observation, 2) comparison, 3) forecasting, 4) abstraction, 5) systematic.

80. Which of the following methods are used at the empirical and theoretical levels of research: 1) measurement, 2) abstraction, 3) forecasting, 4) induction and deduction, 5) analogy, 6) modelling.

81. Which of the following methods are used at the empirical and theoretical levels of research: 1) measurement, 2) analysis and synthesis, 3) forecasting, 4) induction and deduction, 5) systematic, 6) modelling.

82. The method of cognition of reality, which is based on direct perception of processes, phenomena, objects with the help of the senses, without the intervention of the researcher, is called: 1) observation, 2) measurement, 3) comparison, 4) experiment, 5) abstraction.

83. The elements of observation are: 1) observer, 2) researcher, 3) object of observation, 4) object of experiment, 5) means of observation, 6) means of influence.

84. Methodological requirements for observation: 1) activity, 2) comparison, 3) purposefulness, 4) regularity, 5) systematicity.

85. The method of cognition of reality based on the representation of properties of real objects in the form of numerical values is called: 1) observation, 2) measurement, 3) comparison, 4) experiment, 5) abstraction.

86. Select the types of scientific measurement: 1) mathematical, 2) absolute, 3) relative, 4) indirect, 5) statistical, 6) dynamic.

87. Select the types of scientific measurement: 1) direct, 2) mathematical, 3) indirect, 4) indirect, 5) static, 6) dynamic.

88. Measurement based on direct measurement of one or more basic quantities is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

89. Measurement of the ratio of a quantity to another homogeneous quantity is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

90. Measurement of a quantity that changes during the measurement is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

91. Measurement, in which the value of one or more measured quantities is found after the transformation of the kind of quantity is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

92. Measurement of a quantity with transformation of its kind is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

93. Measurement of a single quantity, the value of which is found directly without converting its kind, is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

94. Measurement of a quantity that can be considered unchanged during the measurement is called: 1) absolute, 2) relative, 3) dynamic, 4) indirect, 5) static, 6) indirect, 7) direct.

95. The method of cognition of reality, designed to select representative information characteristics of the object for adequate reproduction in the model in order to identify the material, establish its structure and content, is called: 1) observation, 2) measurement, 3) description, 4) experiment, 5) abstraction.

96. Select the types of scientific description: 1) artistic description of characteristics, 2) classification of collected data, 3) arbitrary description, 4) description using theoretical positions, 5) description of information characteristics of the object.

97. The method of cognition of reality, designed to establish common and

different parameters between processes, phenomena, objects, is called: 1) observation, 2) measurement, 3) comparison, 4) experiment, 5) abstraction.

98. The method of cognition of reality through scientifically organised experience, initiating processes, phenomena and carried out with the intervention of the researcher is called: 1) observation, 2) measurement, 3) comparison, 4) experiment, 5) abstraction.

99. Select the characteristics of an experiment: 1) does not require the intervention of the researcher, 2) takes place with the intervention of the researcher, 3) is unique and inimitable, 4) is repeated under the described conditions an unlimited number of times and gives identical results, 5) takes place in artificial conditions.

100. Types of experiment: 1) observation, 2) laboratory, 3) natural, 4) measurement, 5) generalisation.

101. Select the types of natural experiment: 1) psychological and pedagogical, 2) industrial, 3) laboratory, 4) educational, 5) field.

102. Choose the most common methods: 1) experiment, 2) analysis, 3) synthesis, 4) observation, 5) analogy.

103. Choose the general logical methods: 1) induction, 2) measurement, 3) deduction, 4) formalisation, 5) systematic.

104. Choose the general logical methods: 1) hypothetical and deductive, 2) idealisation, 3) combination of historical and logical, 4) modelling, 5) deduction.

105. A method of scientific knowledge that consists in the mental construction of objects that do not exist in reality: 1) analysis, 2) synthesis, 3) induction, 4) idealisation, 5) abstraction, 6) analogy, 7) modelling.

106. Method of scientific knowledge in mathematical logic, the process of presenting information about an object, process, phenomenon in a formalised form: 1) analysis, 2) formalisation, 3) induction, 4) idealisation, 5) abstraction, 6) analogy, 7) modelling.

107. The method of cognition of reality, which consists in the mental separation of essential features of an object or phenomenon, is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

108. The method of cognition of reality, which is based on the imaginary or practical division of the whole into parts, is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

109. The method of cognition of reality based on the unification of previously separated parts into a whole, in which contradictions are removed or weakened, is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

110. The method of cognition of reality, according to which conclusions about the particular are drawn on the basis of conclusions about the general, is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

111. The method of cognition of reality based on conclusions from the general to the particular is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

112. A method of cognition of reality based on the transfer of one or more characteristics from a known phenomenon to an unknown one is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

113. The method of cognition of reality based on the replacement, theoretical or experimental, of an object or phenomenon with a similar one is called: 1) analysis, 2) synthesis, 3) induction, 4) deduction, 5) abstraction, 6) analogy, 7) modelling.

114. The method of cognition of reality based on the transition from the sensory-concrete perception of reality to abstract definitions, and then from the abstract to the concrete in thinking, is called: 1) generalisation, 2) ascent from the abstract to the concrete, 3) hypothetical and deductive, 4) systemic, 5) abstraction.

115. The method of cognition of reality based on testing the consequences of hypotheses with the help of facts is called: 1) generalisation, 2) ascent from the abstract to the concrete, 3) hypothetical-deductive, 4) systematic, 5) abstraction.

116. The method of cognition of reality, which is based on the idea of the

unity of the world around us, where things and phenomena are interconnected by many links, is called: 1) generalisation, 2) ascent from the abstract to the concrete, 3) hypothetical and deductive, 4) systemic, 5) abstraction.

117. A method of cognition of reality based on predicting the future using a set of thinking techniques that allow, on the basis of retrospective, exogenous and endogenous facts, as well as changes over a certain period of time, to make a judgement about the reliability of the future development of an object or phenomenon, is called: 1) generalisation, 2) forecasting, 3) modelling, 4) systemic, 5) abstraction.

118. Choose the methods of theoretical knowledge: 1) hypothetical and deductive, 2) idealisation, 3) combination of historical and logical, 4) modelling, 5) deduction, 6) axiomatic.

119. A method of theoretical research and construction of a scientific theory, according to which some of its statements are accepted as initial axioms, and all other provisions are derived from them by reasoning according to certain logical rules: 1) axiomatic, 2) systemic, 3) hypothetical and deductive, 4) ascent from the abstract to the concrete, 5) combination of historical and logical.

120. A method of cognition of reality based on the idea that the surrounding reality is a single whole, things and phenomena are connected to each other by many links: 1) axiomatic, 2) systemic, 3) hypothetical and deductive, 4) ascent from the abstract to the concrete, 5) combination of historical and logical.

121. A method of cognition of reality based on the study of historical processes in a certain sphere, identification of necessary connections in it, which are reduced to a single system of statements: 1) axiomatic, 2) systemic, 3) hypothetical and deductive, 4) ascent from the abstract to the concrete, 5) combination of historical and logical.

122. A method of cognition of reality that is used as a tool to substantiate readymade, available knowledge, with the help of which consequences are derived from hypotheses and verified with the help of facts: 1) axiomatic, 2) systematic, 3) hypothetical-deductive, 4) ascent from the abstract to the concrete, 5) combination

of historical and logical.

123. A method of studying reality, the essence of which is a consistent transition from abstract and one-sided ideas about it to its more and more concrete reproduction in theoretical thinking: 1) axiomatic, 2) systemic, 3) hypothetical and deductive, 4) ascent from the abstract to the concrete, 5) combination of the historical and logical.

124. Select the requirements for biological research: 1) collecting material as much as possible, 2) collecting extensive factual material, 3) studying only one aspect of the organism's life, 4) studying all aspects of the organism's life, 5) using a single methodology, 6) using different methods.

125. Select the requirements for biological research: 1) the results obtained must be comparable, 2) the results need not be comparable, 3) the material must be clearly labelled, 4) the material may be unlabelled, 5) the amount of material collected must be sufficient.

126. Select the stages of creating a research programme: 1) selecting a topic, 2) discussing possible outcomes, 3) formulating goals and objectives, 4) discussing areas of work, 5) determining the amount of material to be collected.

127. Typical biological research programmes include: 1) ecological and faunal, 2) monographic, 3) ecological and ethological, 4) biocenotic, 5) study of the ecology of a particular species.

128. Select the list of issues that are considered in ecological and faunal studies: 1) species composition of organisms, 2) morphology of the species, 3) ecological analysis of the habitat, 4) biology of the species, 5) biology of the recorded species, 6) parasites and consumers of the species.

129. Select the list of issues that morphological studies address: 1) species composition of organisms, 2) morphology of the species, 3) ecological analysis of the habitat, 4) biology of the species, 5) biology of recorded species, 6) parasites and consumers of the species.

130. Select the list of issues considered in ecological and faunal studies: 1) identification of species habitats, 2) species development cycle, 3) ecology of the

most important species of organisms, 4) economic importance of the species, 5) environmental impact on species distribution.

131. Select the list of issues that morphological research addresses: 1) identification of species habitats, 2) developmental cycle of a species, 3) ecology of the most important species of organisms, 4) economic importance of a species, 5) influence of the environment on the distribution of species.

132. Select the list of issues that the ecology of a particular species considers: 1) distribution of the species in stations, 2) study of organisms as components of the biocenosis, 3) phenology of the species, 4) food resources of the species, 5) nutrition of different phases of development.

133. Select the list of issues that biocenotic research addresses: 1) distribution of species in stations, 2) study of organisms as components of biocenosis, 3) phenology of species, 4) food resources of species, 5) nutrition of different developmental stages.

134. Select the list of issues that the ecology of a particular species considers: 1) changes in habitat conditions under the influence of anthropogenic factors, 2) ecology of reproduction of the species, 3) trophic relationships in the biocenosis, 4) economic importance of the species, 5) daily and seasonal cycles in the biocenosis, 6) types of reproduction of the species.

135. Select the list of issues that biocenotic research addresses: 1) change in habitat conditions under the influence of anthropogenic factors, 2) ecology of species reproduction, 3) trophic relationships in the biocenosis, 4) economic importance of the species, 5) daily and seasonal cycles in the biocenosis, 6) types of species reproduction.

136. The material and technical equipment of field work, which depends on the research programme, technical means and material capabilities and is determined by the chosen methodology, is called: 1) work plan, 2) equipment, 3) work programme, 4) observation diary.

137. Select the requirements for the equipment: 1) high performance, 2) calibrated, 3) untested, 4) portable, 5) bulky, 6) durable and lightweight.

138. The scheme of measures that provides for the duration and total

period of research, terms and seasons of individual measures, the order of performance of certain works with specification of the methodology is called: 1) work plan, 2) equipment, 3) work programme, 4) observation diary, 5) research objective.

139. A short-term stay in one place for the purpose of conducting, in some cases, reconnaissance, in others - broader research within a relatively short period of time is called: 1) experimental research, 2) expeditionary research, 3) stationary work, 4) phenological observations, 5) ecological research.

140. Research carried out in one, strictly defined place, with a certain issue being studied regularly and consistently for a long time, is called: 1) experimental research, 2) expeditionary research, 3) stationary research, 4) phenological observations, 5) ecological research.

141. The processing of observation materials, which is closely related to the elements of comparison, collation and selection of facts, allows to organise, systematise and generalise data, is called: 1) experimental research, 2) expeditionary research, 3) scientific description, 4) phenological observations, 5) publication.

142. Clear, accurate and timely recording of research, observations and all facts with indication of date, time, habitat is carried out in: 1) observation diary, 2) work plan, 3) scientific description, 4) work programme, 5) scientific report.

143. The observation diary may be supplemented by: 1) chronological records, 2) photographs, 3) video recording, 4) thematic records, 5) sketches.

144. Intellectual creative activity aimed at obtaining and using new knowledge is called: 1) scientific concept, 2) methodology, 3) method, 4) scientific activity, 5) scientific research.

145. Select the types of scientific activity: 1) scientific, 2) research, 3) scientific and organisational, 4) organisational, 5) scientific and information.

146. Select the types of scientific activity: 1) scientific and pedagogical, 2) pedagogical, 3) scientific and organisational, 4) organisational, 5) scientific and auxiliary.

147. The product of scientific activity in the form of theories, as confirmed

hypotheses, formalisation of the laws of nature or society and, in general, new knowledge about man and the world around him, is called: 1) cognition, 2) knowledge, 3) science, 4) theory, 5) law, 6) concept.

148. The theory of mathematised natural science in the seventeenth century was put forward by: 1) J.-J. Rousseau, 2) M. V. Lomonosov, 3) F. Voltaire, 4) I. Kant, 5) D. Diderot.

149. Science studies identify the following essential features of science: 1) the presence of analysed and systematised reliable knowledge, 2) the presence of any knowledge, 3) the presence of special terminology, 4) the absence of terminology, 5) the presence of methodological and operational apparatus, 6) the absence of methodological and operational apparatus.

150. Science studies identify the following essential features of science: 1) unity of functions of description, explanation and prediction, 2) unity of functions of observation, experiment and logic, 3) presence of basic principles and axioms, 4) absence of basic principles and axioms, 5) satisfaction of a certain individual need, 6) satisfaction of a certain social need.

151. Requirements for qualification works: 1) relevance of the topic, 2) the topic is chosen arbitrarily, 3) study and critical analysis of monographic and periodical publications on the topic, 4) structure is arbitrary, 5) generalisation and justification of research results, conclusions, 6) pages in the appendices are not numbered.

152. Students who: 1) have fulfilled all the requirements of the curriculum, 2) have no debts, 3) submitted the qualification work on time, 4) submitted the work the day before the defence, 5) received positive feedback and review, 6) did not receive feedback and review.

153. Structure of qualification papers: 1) title page, table of contents, introduction, several chapters covering the theory of the issue and the practical part of the work, conclusions, list of references, appendices, 2) title page, table of contents, introduction, 5 chapters covering the theory of the issue and the practical part of the work, conclusions, list of references, appendices, 3) title page, table of contents, introduction, 3 chapters covering the theory of the issue and the practical part of the

work, conclusions, list of references, appendices.

154. The structure of the introduction of qualification works: 1) relevance of the chosen topic, object and subject of work, purpose and objectives of the research, scientific novelty of the results, practical significance, testing of the research results, volume and structure of the work, 2) relevance of the chosen topic, purpose and objectives of the research, object and subject of work, scientific novelty of the results, practical significance, testing of the research results, volume and structure of the work, 3) relevance of the chosen topic, purpose and objectives of the research, object and subject of work, practical significance, testing of the research results, scientific

155. The importance, significance, relevance of the research topic to the current needs of a particular field of science and the prospects for its development, practical tasks of the relevant field of activity, and the characteristics of the relationship between what is already known about the problem and what is being studied by the student for the first time reflect 1) content, 2) relevance, 3) novelty, 4) practical significance, 5) testing.

156. The process or phenomenon that gives rise to a problem situation and is selected for study, the thing that the researcher's cognitive activity is directed at, is called: 1) content, 2) relevance, 3) object of research, 4) subject of research, 5) purpose of research.

157. The theoretical reproduction of objective reality, those essential connections and relations that are subject to direct study in the work, are the main ones, determining for a particular study, these are the properties studied for a specific purpose, are called: 1) content, 2) relevance, 3) object of research, 4) subject of research, 5) purpose of research.

158. The final result, which the research is aimed at achieving, which is consistent with the title of the work and conclusions and contains not only the expected results, but also indicates what scientific prerequisites the research is based on, what and how it is achieved, is called: 1) content, 2) conclusions, 3) object of research, 4) subject of research, 5) purpose of research.

159. The disclosure of the main scientific concept of the author, the

scientific explanation of his/her research in new qualitative and quantitative aspects, reflects: 1) content, 2) conclusions, 3) novelty of the work, 4) practical significance, 6) purpose of the study.

160. Implementation of research results in the educational process, publications, practical activities of students and professionals reflects: 1) content, 2) conclusions, 3) novelty of the work, 4) practical significance, 5) purpose of the research.

161. Publication of research results at conferences, in publications, copyright certificates, patents, reflects: 1) the purpose of the study, 2) conclusions, 3) novelty of the work, 4) practical significance, 5) testing of the results.

162. The logical conclusion of a qualification work that meets the purpose, tasks, content, reflects the main scientific results obtained by the student personally are: 1) introduction, 2) content, 3) conclusions, 4) appendices, 5) novelty of the work.

163. In the process of working on a qualification project, a student must master the skills of: 1) scientific search for information, 2) selection of material necessary for the disclosure of the research topic, 3) conducting classes, 4) summarising and analysing the material, 5) monitoring methods.

164. The justification of the work must be scientific and contain: 1) a certain set of practical, research results, 2) an artistic description of the stations, 3) mathematical calculations obtained by the student, 4) intuitive conclusions of the student.

165. General provisions for the design of the work: 1) the text is printed in the state language on one side of an A4 sheet, Times New Roman font, size 14, at 1.5 intervals, 2) the text is printed in the state language on one side of an A4 sheet, Arial font, size 16, at 1.5 intervals, 3) the text is printed in the state language on one side of an A4 sheet, Times New Roman font, size 12, at 2 intervals.

166. A scientific text is characterised by: 1) emotional colouring, 2) logicality, reliability, objectivity, 3) clarity of wording, 4) use of a large number of adjectives, 5) lack of terminology.

167. The style of a scientific text includes only: 1) direct word order, 2) strengthening of the informational role of the word towards the end of the sentence, 3) expression of personal feelings and use of figurative writing, 4) use of terminology, 5) absence of terminology.

168. The features of a scientific text are: 1) the use of scientific terminology, 2) the absence of terminology, 3) the use of simple sentences, 4) the use of very complex sentences, 5) the presentation of the text in the 1 st person singular.

169. A scientific text should be: 1) be presented in the form of sections, subsections, paragraphs, 2) be presented without division in one continuous text, 3) be composed in such a way that each new thought begins with a paragraph, 4) be presented without selection of language units and stylistic means, 5) be presented in the form of a dialogue.

170. Abbreviations in scientific texts: 1) are allowed in the form of abbreviations and generally recognised acronyms, 2) are allowed up to one letter with a period, 3) are not allowed, 4) are allowed if there is a list of abbreviations used, 5) any abbreviations are allowed.

171. Illustrations in scientific texts: 1) must have a title and number, 2) must be in colour, 3) must be placed in the text after the first mention of them, 4) must be placed anywhere in the text, 5) must be given only in the appendix.

172. The general requirements for scientific biological research are: 1) collect sufficient factual material, 2) collect any material, 3) obtain comparable data, 4) obtain arbitrary data, 5) accurately document the material, 6) no documentation is required.

173. Biological research is organised at the following levels: 1) cellular, 2) tissue, 3) organismal, 4) population, 5) species, 6) biocenotic.

174. Studies that involve the establishment of the main features of the habitat and related changes in the lifestyle of a group of organisms are called: 1) ecological, 2) faunal, 3) ecological and faunal, 4) monographic, 5) autecological, 6) biocenotic.

175. Published sources of information include: 1) books and brochures,

2) periodicals (magazines and newspapers), 3) dissertations, 4) articles submitted to the editorial board, 5) scientific reports.

176. Unpublished sources of information include: 1) dissertations and research reports, 2) translations of foreign articles and deposited manuscripts, 3) brochures, 4) articles, 5) books.

177. The following help in the prompt search for scientific and technical information: 1) catalogues and file cabinets, 2) thematic lists of literature, 3) police officers, 4) curators, 5) libraries.

178. Requirements for the report: 1) it should be written in the state language, 2) it should reflect the conclusions of the work, 3) it should reflect the introduction to the work, 4) it should briefly reflect the introduction, content of the work and conclusions, 5) it should be illustrated with tables, figures, photographs, diagrams.

179. A text published in a scientific publication and made available to the general public during conferences, symposia, and seminars is called: 1) article, 2) abstracts, 3) publication, 4) speech, 5) report.

180. One of the main types of publications that contains a summary of intermediate or final results of scientific research, highlights a specific issue on the topic, fixes the author's scientific priority, and makes its material available to specialists is called: 1) article, 2) abstract, 3) publication, 4) speech, 5) report.

181. Preliminary materials containing a brief, precise and consistent statement of the main aspects of a scientific report, fixing the scientific priority of the author, published before the scientific conference (congress, symposium), are called: 1) article, 2) abstract, 3) publication, 4) speech, 5) report.

182. A brief summary of certain information based on literary sources is called: 1) article, 2) thesis, 3) publication, 4) abstract, 5) report.

183. A publicly delivered message, a detailed presentation of a certain scientific problem (topic, issue) is called: 1) article, 2) thesis, 3) publication, 4) abstract, 5) report.

184. Structure of abstracts: 1) title, authors, materials and methods, research

results, 2) title, authors, institution, materials and methods, brief overview of research results, 3) title, authors, institution, introduction, literature review, materials and methods, research results, 4) title, authors, institution, materials and methods, research results, conclusions, literature.

185. A scientific work containing a complete or in-depth study of a single problem or topic, which belongs to one or more authors, is called: 1) article, 2) monograph, 3) publication, 4) scientific monograph, 5) report.

186. A research work, the subject of which is an exhaustive generalisation of theoretical material on a scientific problem or topic with its critical analysis, determination of its significance, and formulation of new scientific concepts, is 1) an article, 2) a monograph, 3) a publication, 4) a scientific monograph, 5) a report.

187. Select the types of monographs: 1) descriptive, 2) scientific, 3) industrial, 4) practical, 5) review.

188. Aspects of students' research work: 1) teaching students the elements of research activity and organisation of scientific creativity, 2) teaching students the elements of public activity and its organisation, 3) conducting scientific research, 4) conducting public work, 5) teaching students the methods of scientific creativity.

189. The content and nature of students' research work are determined by: 1) the subject of research of the department, 2) the subject of research of the educational institution, 3) the availability of a research base, 4) solely by the student's desire, 5) the availability of qualified scientific supervision.

190. Areas of research activity of students of a higher education institution: 1) an integral element of the educational process, 2) carried out at the request of the student, 3) carried out outside the educational process within the student scientific and creative society, 4) participation in scientific and organisational events - conferences, competitions, olympiads, 5) participation in the public life of the faculty.

191. The research activities of students implemented in the complex ensure the solution of the following tasks: 1) formation of the general outlook of students, 2) formation of the scientific outlook of students, 3) accelerated mastery of the speciality, 4) development of creative thinking and individual abilities in solving

practical problems, 5) development of the speech apparatus.

192. Types and forms of research work of students: 1) educational research work provided for in the curriculum, 2) public work provided for in the plans of educational work, 3) organisational work provided for in the plans of the faculty, 4) student research work carried out under the guidance of the teaching staff, 5) student research work carried out under the guidance of senior students.

193. Academic research work: 1) compulsory for each student, 2) optional for each student, 3) writing essays, 4) performing laboratory, practical, seminar works, 5) preparation and defence of qualification works.

194. Independent research work, the final link in a unified system of theoretical and practical training of a student. The main task of the author is to demonstrate the level of scientific qualification, the ability to independently conduct scientific research and solve specific scientific problems: 1) term paper, 2) bachelor's thesis, 3) diploma thesis, 4) master's thesis, 5) any scientific work.

195. Types of research work of students outside the educational process: 1) course work, 2) bachelor's thesis, 3) subject scientific circles, 4) master's thesis, 5) problem groups, 6) writing publications.

196. The main organisational principles of successful functioning and effective activity of scientific student groups: 1) expediency, 2) voluntariness, 3) compulsory, 4) planning, 5) lack of planning.

197. The main organisational principles of successful functioning and effective activity of scientific student groups are: 1) the reality of the subject matter, 2) uniformity of work methods, 3) diversity of work methods, 4) stability of the composition, 5) instability of the composition, 6) consideration of the interests and capabilities of students, 7) high qualification and interest of the teacher.

MODULE 2

SCIENTIFIC ETHICS

198. Making public (publishing), in whole or in part, another person's work under the name of a person who is not the author of that work: 1) plagiarism, 2) academic plagiarism, 3) work, 4) quotation, 5) reference.

199. Intentional reproduction (in whole or in part) by a researcher in written or electronic form of another's work in whole or in part, under his or her own name without reference to the author: 1) plagiarism, 2) academic plagiarism, 3) work, 4) quotation, 5) reference.

200. The result of a person's creative activity in the scientific, literary and artistic spheres, presented on paper and in electronic form, including the Internet: 1) plagiarism, 2) academic plagiarism, 3) work, 4) quotation, 5) reference.

201. A relatively short excerpt from a literary, scientific or any published work that is used by another person in his or her own work with the obligatory reference to the author and source in order to confirm, clarify or expand his or her own opinion: 1) plagiarism, 2) academic plagiarism, 3) work, 4) quotation, 5) reference.

202. Types of plagiarism: 1) copying the information of another author and presenting the work as one's own without citation, 2) copying the information of another author and citing it, 3) copying another author's work verbatim into one's own without proper citation, 4) copying another author's work verbatim into one's own with proper citation, 5) paraphrasing.

203. Measures to prevent academic plagiarism: 1) disclosure of scientific results obtained by other persons, 2) concealment of scientific results obtained by other persons, 3) public defence of written works, 4) absence of public defence of written works, 5) publication of the best works and discussion at scientific conferences.

204. Responsibility for plagiarism is borne by: 1) the student, 2) the supervisor, 3) the head of the department, 4) the dean, 5) the vice-rector for research.

205. Choose the methods of combating plagiarism: 1) organisational,

2) public, 3) legal, 4) humane, 5) software and hardware.

206. Select organisational methods of combating plagiarism: 1) conducting relevant special courses, 2) concluding contracts with students, 3) identifying those responsible for controlling plagiarism in student work, 4) creating software that recognises plagiarism in research papers, 5) issuing original assignments, 6) introducing a rating system to encourage students to work independently.

207. Choose organisational methods of combating plagiarism: 1) conducting relevant special courses, 2) concluding agreements with students, 3) expelling students, 4) creating programs that recognise plagiarism in research papers, 5) issuing original assignments, 6) introducing a rating system to encourage students to work independently.

208. Choose legal methods of combating plagiarism: 1) conducting appropriate special courses, 2) concluding contracts with students, 3) identifying those responsible for controlling plagiarism in student work, 4) creating software that recognises plagiarism in research papers, 5) issuing original assignments, 6) introducing a rating system to encourage students to work independently.

209. Select software and hardware methods of combating plagiarism: 1) conducting appropriate special courses, 2) concluding contracts with students, 3) identifying those responsible for controlling plagiarism in student work, 4) creating software that recognises plagiarism in research papers, 5) issuing original assignments, 6) introducing a rating system to encourage students to work independently.

210. Cases of plagiarism were first recorded: 1) in ancient times, 2) in the Renaissance, 3) in the Middle Ages, 4) in the seventeenth century, 5) in the nineteenth century, and 6) in the twentieth century.

211. Cases of prosecution for plagiarism were first recorded: 1) in ancient times, 2) in the Renaissance, 3) in the Middle Ages, 4) in the seventeenth century, 5) in the nineteenth century, 6) in the twentieth century.

212. The term "plagiarism" in the modern sense first appeared: 1) in Europe, 2) in America, 3) in China, 4) in the seventeenth century, 5) in the nineteenth century, 6) in the twentieth century.

213. The documents are checked for plagiarism for electronic versions presented in the following formats: 1) *.rtf (Rich Text Format), 2) *.doc (Word 97-Word 2003), 3) *.docx (Word 2007), 4) *.pdf (Portable Document Format), 5) *.jpg (Joint Photographic Experts Group).

214. Consequences of detecting plagiarism in student work: 1) the work cannot be positively evaluated, 2) the work can be positively evaluated, 3) not allowed for defence, 4) allowed for defence, 5) expulsion from the university.

215. Choose the types of plagiarism according to the intent: 1) direct, 2) unintentional, 3) covert, 4) intentional, 5) photocopy.

216. Select the types of plagiarism by the form of reproduction: 1) direct, 2) unintentional, 3) covert, 4) intentional, 5) photocopy.

217. Choose the types of plagiarism according to the presence of the source: 1) direct, 2) unintentional, 3) borrowing without attribution, 4) borrowing with attribution, 5) intentional.

218. Select the types of borrowing without indicating the source: 1) "ghostwriter", 2) "forgotten reference", 3) "poor disguise", 4) "disinfectant", 5) "photocopy", 6) "labour of laziness".

219. Choose the types of borrowing without specifying the source: 1) "perfect crime", 2) "stolen from me", 3) "poor disguise", 4) "disinformer", 5) "photocopy", 6) "abundant citation".

220. Select the types of borrowing with the source: 1) "ghostwriter", 2) "forgotten reference", 3) "poor disguise", 4) "disinformer", 5) "photocopy", 6) "work of laziness".

221. Please select the types of borrowing and indicate the source: 1) "perfect crime", 2) "stolen from me", 3) "poor disguise", 4) "disinformer", 5) "photocopy", 6) "abundant citation".

222. The set of administrative rules and moral principles of modern science, the violation of which leads to administrative proceedings, is: 1) bioengineering, 2) bioethics, 3) scientific ethics, 4) scientific aesthetics, 5) ethics.

223. The principles of scientific ethics include: 1) all researchers are equal in

the face of the truth, 2) preference is given to well-known scientists, 3) scientific honesty in presenting research results, 4) the possibility of selective use of facts, 5) not to engage in plagiarism.

224. The principles of scientific ethics at Harvard University include: 1) "honorary" co-authorship is possible, 2) each author must make an intellectual contribution to the work, 3) funding of scientific research gives the right to authorship, 4) funding of scientific research does not give the right to authorship, 5) a scientist who partially contributed to the publication of a scientific work is acknowledged at the end of the article, 6) a scientist who partially contributed to the publication of a scientific work may be a co-author.

225. Moral principles of science according to Robert Merton: 1) collectivism, 2) individualism, 3) universalism, 4) selflessness, 5) organised scepticism, 6) pessimism.

226. Moral principles of science according to Robert Merton: 1) collectivism, 2) individualism, 3) universalism, 4) specialisation, 5) organised scepticism, 6) pessimism.

227. The basic idea of ethics in science was expressed by: 1) Plato, 2) Aristotle, 3) Hippocrates, 4) Kant, 5) Pythagoras.

228. Modern scientific ethics is characterised by: 1) the goal is to obtain and expand the sphere of objective knowledge, 2) the goal is to obtain and expand the sphere of subjective knowledge, 3) it meets the norms of tolerance, 4) it meets the norms of conservatism, 5) it supports intellectual values, 6) it supports utilitarian values.

229. The formulation of general ethical principles that every scientist should adhere to in his/her work, regulation of relations between scientists and society are: 1) the purpose of the Code of Ethics for Scientists, 2) the tasks of the Code of Ethics, 3) the object of the Code of Ethics, 4) the subject of the Code of Ethics, 5) the general principle of the Code of Ethics.

230. Giving priority to the moral dimensions of science and the social responsibility of the community of scientists and each scientist in particular is:

1) the purpose of the Code of Ethics for Scientists, 2) the tasks of the Code of Ethics, 3) the object of the Code of Ethics, 4) the subject of the Code of Ethics, 5) the general principle of the Code of Ethics.

231. The general principles of scientific ethics include: 1) the effectiveness of science is evaluated by society, 2) the effectiveness of science is evaluated by the scientific community, 3) a scientist is morally responsible for the consequences of his/her activities, 4) a scientist is not morally responsible for the consequences of his/her activities, 5) promotion of conformism, 6) opposition to conformism.

232. The general principles of scientific ethics provided for in the Code of Ethics for Scientists include: 1) promotion of absolutely all research, 2) opposition to pseudoscience, 3) science should benefit humanity, 4) a scientist is not responsible for the use of research results, 5) preservation of the environment, 6) freedom in science.

233. The general principles of scientific ethics provided for by the Code of Ethics for Scientists include: 1) fostering scientific change, 2) not harming the professional reputation of another scientist, 3) science should benefit humanity, 4) a scientist is not responsible for the use of research results, 5) preserving the environment.

234. The general principles of scientific ethics provided for in the Code of Ethics for Scientists include: 1) opposition to conducting unfounded research, 2) promotion of absolutely all research, 3) freedom to choose scientific areas of research, 4) condemnation of censorship of scientific creativity, 5) condemnation of monopolisation of scientific areas.

235. The requirements for conducting scientific research stipulated by the Code of Ethics for Scientists include: 1) adherence to the highest professional standards of planning and conducting scientific research, 2) research findings should reflect the expectations of the customer, 3) a scientist serves only objective truth, 4) ensuring the protection of intellectual property, 5) respect for human rights.

236. The requirements for conducting scientific research provided for by the Code of Ethics for Scientists include: 1) medical and biological research should be guided by the principles of bioethics, 2) research should be guided by its own

principles, 3) not to cause damage to the environment, 4) to ensure the protection of intellectual property, 5) should not offend human dignity.

237. The requirements for conducting scientific research provided for in the Code of Ethics for Scientists include: 1) unacceptable manifestations of fraud, 2) conducting scientific research on the basis of in-depth knowledge, 3) the supervisor's biased influence on the nature of the results obtained, 4) the desire for proper erudition and competence, 5) the use of the results of work in the interests of society.

238. The requirements for a scientist as an author are stipulated by the Code of Ethics for Scientists: 1) recognition of international and national legal norms on copyright, 2) all those who took creative part in the work should be listed as authors, 3) a scientist has the right and obligation to protect his/her scientific priority, 4) publication of inaccurate and unconvincing scientific results is allowed, 5) a scientist should not repeat his/her scientific publications.

239. The requirements for a scientist as an author are stipulated by the Code of Ethics for Scientists: 1) the motivation of the activity is the desire to learn and the desire to enrich science with new knowledge, 2) the motivation of the activity is the desire for personal enrichment, 3) borrowing illustrative material requires the permission of the author or publisher, 4) borrowing illustrative material does not require the permission of the author or publisher, 5) the scientist should not repeat his/her scientific publications.

240. Normative knowledge that covers moral issues related to the development of biomedical sciences, which concern genetics, medical research, therapy, care for human health and life: 1) bioengineering, 2) bioethics, 3) biology, 4) biotechnology, 5) biometrics.

241. Morality of human behaviour in the biomedical and healthcare sector in terms of its compliance with moral norms and values: 1) the subject of bioethics, 2) the purpose of bioethics, 3) the object of bioethics, 4) the tasks of bioethics, 5) the main direction of bioethics.

242. Protection of human health and life from the moment of fertilisation

to natural death, which is expressed through various forms of treatment; moral aspects of war, murder, abortion, suicide, euthanasia: 1) the subject of bioethics, 2) the purpose of bioethics, 3) the object of bioethics, 4) the tasks of bioethics, 5) the main direction of bioethics.

243. The term "bioethics" was coined by: 1) L. S. Gittick, 2) Fritz Jagr, 3) Van Rensselaer Potter, 4) André Hellegers, 5) Nakamura Hajime.

244. The modern concept of bioethics was developed by: 1) L. S. Gittick, 2) Fritz Jagr, 3) Van Rensselaer Potter, 4) André Hellegers, 5) Nakamura Hajime.

245. The moral dilemmas of bioethics include: 1) the principles of paternalism and individual autonomy, 2) the problems of positive and negative eugenics, 3) the problem of surrogacy, 4) the problem of normal motherhood, 5) the realisation of the idea of justice.

246. The moral dilemmas of bioethics include: 1) attitudes towards genetic engineering, 2) attitudes towards transplantation, 3) attitudes towards abortion, 4) attitudes towards same-sex marriage, 5) attitudes towards traditional culture.

247. The set of ethical principles and rules determined by law that should guide participants in the educational process during learning, teaching and conducting scientific (creative) activities in order to ensure confidence in the results of learning and/or scientific (creative) achievements is 1) scientific ethics, 2) ethics, 3) academic decency, 4) academic integrity, 5) academic norm.

248. Observance of academic integrity by pedagogical, scientific-pedagogical and research workers provides for: 1) reference to sources of information, 2) absence of reference to sources of information, 3) partial reference to sources of information, 4) compliance with copyright law, 5) non-compliance with copyright law.

249. Observance of academic integrity by pedagogical, scientific-pedagogical and research workers provides for: 1) providing reliable information about research results, 2) providing reliable information about pedagogical (scientific, pedagogical, creative) activities, 3) concealing information about the results of activities, 4) control over the observance of academic integrity by students, 5) optional

compliance with ethical principles.

250. The observance of academic integrity by students involves: 1) independent completion of academic tasks, 2) collective completion of academic tasks, 3) references to sources of information, 4) lack of references to sources of information, 5) optional compliance with ethical principles.

251. Observance of academic integrity by students involves: 1) non-compliance with copyright law, 2) compliance with copyright law, 3) providing reliable information about the results of their own educational (scientific, creative) activities, 4) providing reliable information about the results of other people's educational (scientific, creative) activities, 5) concealing information about the results of educational activities.

252. Violation of academic integrity is considered to be: 1) plagiarism, 2) academic plagiarism, 3) fabrication, 4) transformation, 5) deception, 6) citation.

253. Violation of academic integrity is considered to be: 1) cheating, 2) copying, 3) bribery, 4) deception, 5) self-plagiarism, 6) citation.

254. Reproduction of one's own previously published texts without reference to the source of information is called: 1) fabrication, 2) plagiarism, 3) academic plagiarism, 4) deception, 5) self-plagiarism, 6) bribery, 7) cheating.

255. Falsification of research results, references, or any other data related to the educational process is called: 1) fabrication, 2) plagiarism, 3) academic plagiarism, 4) deception, 5) self-plagiarism, 6) bribery, 7) cheating.

256. Providing deliberately false information about one's own educational (scientific, creative) activity or organisation of the educational process is called: 1) fabrication, 2) plagiarism, 3) academic plagiarism, 4) deception, 5) self-plagiarism, 6) bribery, 7) cheating.

257. The use of external sources of information without appropriate permission in the assessment of learning outcomes is called: 1) fabrication, 2) plagiarism, 3) academic plagiarism, 4) cheating, 5) self-plagiarism, 6) bribery, 7) cheating.

258. Provision (receipt) by a participant of the educational process or an

offer to provide (receive) funds, property or services of a material or non-material nature in order to obtain an unlawful benefit in the educational process is called: 1) fabrication, 2) plagiarism, 3) academic plagiarism, 4) deception, 5) self-plagiarism, 6) bribery, 7) cheating.

259. For violation of academic integrity, pedagogical, scientific-pedagogical and research staff of educational institutions may be held liable for the following: 1) criminal, 2) administrative, 3) academic, 4) civil, 5) legal.

260. Types of administrative liability for violation of academic integrity by pedagogical, scientific-pedagogical and research staff of educational institutions: 1) refusal to confer a degree, 2) refusal to confer an academic title, 3) deprivation of the right to teach, 4) deprivation of the right to hold positions defined by law, 5) imprisonment.

261. Types of administrative liability for violation of academic integrity by pedagogical, scientific-pedagogical and research staff of educational institutions: 1) deprivation of liberty, 2) deprivation of the awarded academic degree, 3) deprivation of the right to teach, 4) deprivation of the awarded academic title, 5) deprivation of the right to participate in the work of bodies determined by law.

262. For violations of academic integrity, students may be held liable in the following ways: 1) criminal, 2) academic, 3) administrative, 4) civil, 5) legal.

263. Types of administrative liability for violation of academic integrity by students: 1) imprisonment, 2) repeated assessment, 3) repeated completion of a course, 4) deprivation of a previously obtained document on education, 5) deprivation of the right to participate in the work of student self-government.

264. Types of administrative liability for violation of academic integrity by students: 1) deprivation of the right to study for a period of 1 year, 2) repeated assessment, 3) deprivation of a previously obtained document on education, 4) expulsion from a higher education institution, 5) expulsion from a secondary education institution.

265. Academic integrity applies to those who: 1) engaged in science, 2) engaged in education, 3) engaged in creative activity, 4) engaged in production,

5) engaged in marketing.

266. Citation in scientific texts is possible: 1) indicating the author and the title of the source, 2) from published sources, 3) from unpublished sources, 4) only with the permission of the author, 5) without reference to the author.

267. Requirements for compiling a list of references: 1) in the order of citation in the work, 2) in the original language, 3) in the state language, 4) alphabetically, 5) by the name of the first author.

268. Citation of literature in the text of the qualification work: 1) in square brackets the names of the authors and the year of publication, 2) in round brackets the number from the list of references, 3) in square brackets the number from the list of references, 4) in round brackets the names of the authors and the year of publication, 5) the name of the author and the year of publication.

269. Select the characteristics of a literature review: 1) an obligatory element of a scientific work, 2) not obligatory in a scientific work, 3) clarifies the state of development of the problem, 4) establishes the author's priority, 5) confirms the author's arguments.

270. Select the general requirements for citation: 1) the text of the quotation is given arbitrarily, 2) the text of the quotation begins and ends with quotation marks, 3) omission of words, sentences, paragraphs in the quotation is allowed and is indicated by three dots, 4) omission of words, sentences, paragraphs in the quotation is not allowed, 5) each quotation must be accompanied by a reference to the source.

271. Select the general requirements for citation: 1) indirect quotation is not allowed, 2) indirect quotation is allowed, 3) quotation should not be excessive, 4) quotation should not be insufficient, 5) indirect quotation is not accompanied by a reference to the source.

272. Select the meaning of references: 1) help to find documents, 2) check the accuracy of the information about the cited document, 3) help to find out the content of the document, 4) help to establish the priority of the author, 5) help to identify the author's level of knowledge.

273. Select the characteristics of references to sources used: 1) an indication

of the source of information, 2) mandatory when citing, 3) not mandatory when citing, 4) an essential feature of scientific research, 5) not mandatory in scientific research.

274. An indication of a source of information (book, article, document, etc.) is called: 1) list of sources used, 2) list of references, 3) reference to the sources used, 4) footnote, 5) citation of the source.

275. Quoting without the author's consent and without payment of royalties: 1) permitted, 2) not permitted, 3) permitted with the obligatory indication of the author's name, 4) permitted for unpublished works, 5) permitted for legally published works.

276. Quoting without the author's consent and without payment of royalties: 1) is **allowed** in records of educational nature of all works, 2) is allowed in records of educational nature of published works, 3) reproduction of lawfully published works without profit is allowed, 4) reproduction of lawfully published works for profit is allowed, 5) is not allowed.

277. Select the international citation styles recommended for the natural sciences: 1) MLA (Modern Language Association) style, 2) APA (American Psychological Association) style, 3) Chicago/Turabian style, 4) Harvard style, 5) ACS (American Chemical Society) style, 6) IEEE (Institute of Electrical and Electronics Engineers) style, 7) Vancouver style, 8) OSCOLA, 9) AIP (American Institute of Physics) style.

278. An indicator that is widely used in the world to assess the work of researchers and research teams, evaluates the impact of a scientist or organisation on world science, and determines the quality of research is called: 1) dominance index, 2) citation index, 3) reference index, 4) publication index, 5) author index.

279. Select the main indicators used in modern scientometrics: 1) dominance index, 2) citation index of the author's articles, 3) citation index, 4) impact factor, 5) Hirsch index.

280. The index of citation of scientific journals, which determines their informational significance, one of the formal criteria by which the level of scientific research in related fields of knowledge can be compared, is called:

1) dominance index, 2) citation index of the author's articles, 3) reference index, 4) impact factor, 5) Hirsch index.

281. The average ratio of the number of citations of articles in the journal during the current year to the total number of articles published in this journal in the previous two years is: 1) impact factor, 2) citation index of the author's articles, 3) citation index, 4) dominance index, 5) Hirsch index.

282. Select the characteristics of the impact factor: 1) citation index of scientific journals, 2) citation index of the author, 3) calculated for 3 years, 4) calculated for 5 years, 5) calculated for 10 years.

283. The system of the Philadelphia Institute for Scientific Information, which is based on the links between documents by direct, backward and cross-references (citations), is: 1) dominance index, 2) citation index of the author's articles, 3) reference index, 4) impact factor, 5) Hirsch index.

284. Select the characteristics of the citation index: 1) citation index of scientific journals, 2) citation index of the author, 3) covers publications in fundamental fields of science, 4) covers publications in applied fields of science, 5) depends on the popularity of the topic of the work.

285. Select the factors that influence the value of the citation index: 1) the popularity of the research topic chosen by the author, 2) the popularity of the scientist, 3) the scientific activity of the scientist, 4) the age of the scientist, 5) the gender of the scientist.

286. An indicator of the influence of a scientist, a team of scientists, a scientific institution or a scientific journal based on the number of publications and their citations is called: 1) dominance index, 2) citation index of the author's articles, 3) citation index, 4) impact factor, 5) Hirsch index.

287. Select the characteristics of the Hirsch index: 1) citation index of scientific journals, 2) citation index of the author, 3) citation index of the team of scientists, 4) citation index of the scientific institution, 5) depends on the popularity of the topic of the work.

288. A bibliographic and abstract database, a tool for tracking the citation

of scientific publications, a search engine that generates statistics characterising the state and dynamics of indicators of demand, activity and impact indices of individual scientists and research organisations are: 1) an Internet resource, 2) a search engine, 3) a scientometric database, 4) a scientometric platform, 5) a scientometric apparatus.

289. The world's largest single abstract database and scientometric platform, created in 2004, whose scientometric apparatus provides records of publications of researchers and institutions where they work, and statistics on their citation, are: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) Index Copernicus, 5) EBSCOhost, 6) Google Academy.

290. Select the characteristics of the Scopus database: 1) provides records of publications of scientists and scientific institutions, 2) provides citation statistics of publications of scientists, 3) provides citation statistics of scientific institutions, 4) provides hyperlinks to full texts of materials, 5) provides full texts of materials.

291. Select the characteristics of the Scopus database: 1) updated daily, 2) updated monthly, 3) broadly reflects natural sciences and engineering, 4) broadly reflects humanities and social sciences, 5) commercial.

292. The abstract scientometric database of scientific publications, the scientometric apparatus of which provides tracking of citation indicators of publications with a retrospective to 1900, is: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) Index Copernicus, 5) EBSCOhost, 6) Google Academy, 7) Russian Science Citation Index, 8) Ukrainian Science Citation Index.

293. Select the characteristics of the Web of Science database: 1) mainly cites English-language publications, 2) cites a variety of publications, 3) cites publications with an impact factor, 4) reflects the natural sciences, humanities and social sciences, 5) provides full texts of materials.

294. The analytical portal that provides scientometric indicators by journals and countries, publishes rankings of publication activity and citation statistics of journals in more than 230 countries, displays the average number of citations received in the current year for articles published in journals in the

previous three years, including: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) Index Copernicus, 5) EBSCOhost, 6) Google Academy, 7) Russian Science Citation Index, 8) Ukrainian Science Citation Index.

295. Select the characteristics of the SCImago Journal & Country Rank analytical portal: 1) updated daily, 2) updated twice a year, 3) provides scientometric indicators by journal and country, 4) is freely available, 5) provides full texts of materials.

296. The service that provides access to databases of English-language periodicals, contains part of the full texts of articles, and annotations, and archives for some publications up to the 1950s, is: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) Index Copernicus, 5) EBSCOhost, 6) Google Academy.

297. A freely available search engine that provides full-text search of scientific publications of all formats and disciplines, including articles published in journals, stored in repositories or on the websites of research teams or individual scientists, is: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) Index Copernicus, 5) EBSCOhost, 6) Google Academy.

298. Select databases that contain only article abstracts: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) EBSCOhost, 5) Google Academy.

299. Choose databases where some articles are presented in the form of full texts, others - only in the form of abstracts: 1) Scopus, 2) Web of Science, 3) SCImago Journal & Country Rank, 4) EBSCOhost, 5) Google Academy.

300. The non-profit initiative to create a unified register of scientists with personal alphanumeric codes that uniquely identify scientists and their scientific achievements within the global scientific and information community is: 1) Scopus, 2) Web of Science, 3) Scimago Journal & Country Rank, 4) EBSCOhost, 5) Google Academy, 6) ORCID.

301. The digital identifier of a researcher allows: 1) easily identify the author of a particular document, 2) measure the citation of individual researchers' works, 3) establish the author's priority, 4) facilitate the process of assessing the author's

productivity, 5) facilitate the process of assessing the author's influence.

302. The digital identifier of a researcher allows: 1) improves the visibility of the author's publications in individual journals, 2) improves the visibility of the author's publications in the global network, 3) establish the author's priority, 4) simplifies the processing and storage of data in one place, 5) facilitates the process of assessing the author's impact.

303. Select the characteristics of the digital researcher identifier: 1) the only international register of unique identifiers of scientists, 2) one of many registers of identifiers of scientists, 3) does not depend on scientific disciplines, 4) does not depend on the spelling of the author's name, 5) access to the register is free.

304. The digital identifier of a researcher provides: 1) correct citation of articles, 2) the ability to submit articles to prestigious international scientific journals, 3) the ability to participate in grant applications, 4) participation in international rankings, 5) makes it impossible to participate in international rankings.

305. A set of bibliographic records on documents that reveal the composition and content of the collection of a library or information centre, placed according to certain rules, is: 1) library catalogue, 2) library card, 3) library structure, 4) thematic catalogue, 5) alphabetical catalogue, 6) systematic catalogue.

306. Select the types of library catalogue: 1) systematic, 2) bibliographic, 3) disciplinary, 4) subject, 5) alphabetical.

307. A catalogue in which cards are arranged by the names of authors or titles of books and other documents is called: 1) systematic, 2) bibliographic, 3) disciplinary, 4) subject, 5) alphabetical.

308. A catalogue in which descriptions of documents are arranged by branches of knowledge in accordance with a certain classification system is called: 1) systematic, 2) bibliographic, 3) disciplinary, 4) subject, 5) alphabetical.

309. A catalogue in which bibliographic entries are arranged alphabetically by subject headings is called: 1) systematic, 2) bibliographic, 3) disciplinary, 4) subject, 5) alphabetical.

310. A brief explanation (5-6 sentences) of the content of the monograph,

article, which reveals the main provisions, problems, written on bibliographic cards, after the bibliographic description of the book, article, has the following titles: 1) summary, 2) abstract, 3) conclusion, 4) conclusions, 5) introduction.

311. A programme that can contain textual materials, photographs, drawings, slide shows, sound design and voice-over, video fragments and animation is called: 1) presentation, 2) multimedia presentation, 3) poster, 4) stand, 5) posters.

312. Requirements for a multimedia presentation: 1) a single style of design, 2) different styles of design, 3) made in Microsoft Power Point, 4) made in Acrobat Reader, 5) use short words and sentences.

313. Requirements for multimedia presentations: 1) use 1 colour on one slide, 2) use no more than 3 colours on one slide, 3) the background should be plain and light, 4) the background should be colourful, 5) do not use bulky tables.

314. Select the requirements for an abstract of a scientific text: 1) 250 characters, 2) 850 characters, 3) only in the language of the article, 4) in two languages, 5) provides basic information and conclusions for an initial acquaintance with the document.

315. Words and phrases that are used to express a certain aspect of the content of a document (or query), have a significant semantic load, serve to search for information on the Internet or on a website page, reflect the terminological area of a scientific article, are: 1) presentation, 2) abstract, 3) poster, 4) keywords, 5) conclusions.

ANSWERS

Module 1: Science and its organisation

1. 135; **2**. 123; **3**. 234; **4**. 123; **5**. 234; **6**. 2; **7**. 35; **8**. 4; **9**. 3; **10**. 245; **11**. 123; **12**. 13; **13**. 245; **14**. 13; **15**. 23; **16**. 45; **17**. 123578; **18**. 2; **19**. 136; **20**. 257; **21**. 258; **22**. 138; **23**. 235; **24**. 13; **25**. 2; **26**. 13; **27**. 2; **28**. 1 ; **29**. 12; **30**. 45; **31**. 123; **32**. 1 ; **33**. 2; **34**. 3; **35**. 2; **36**. 345; **37**. 2; **38**. 124; **39**. 135; **40**. 2; **41**. 1; **42**. 3; **43**. 1; **44**. 2; **45**. 3; **46**. 1; **47**. 3; **48**. 12; **49**. 4; **50**. 1; **51**. 2; **52**. 3; **53**. 4; **54**. 5; **55**. 6; **56**. 25; **57**. 4; **58**. 2; **59**. 2; **60**. 3; **61**. 5; **62**. 23; **63**. 124; **64**. 1 ; **65**. 2; **66**. 3; **67**. 4; **68**. 2; **69**. 135; **70**. 234; **71**. 134; **72**. 1246; **73**. 135; **74**. 236; **75**. 23456; **76**. 2; **77**. 345; **78**. 12; **79**. 12; **80**. 2456; **81**. 246; **82**. 1; **83**. 135; **84**. 1345; **85**. 2; **86**. 2346; **87**. 13456; **88**. 1; **89**. 2; **90**. 3; **91**. 6; **92**. 4; **93**. 7; **94**. 5; **95**. 3; **96**. 245; **97**. 3; **98**. 4; **99**. 245; **100**. 23; **101**. 1245; **102**. 235; **103**. 134; **104**. 245; **105**. 4; **106**. 2; **107**. 5; **108**. 1 ; **109**. 2; **110**. 3; **111**. 4; **112**. 6; **113**. 7; **114**. 2; **115**. 3; **116**. 4; **117**. 2; **118**. 136; **119**. 1; **120**. 2; **121**. 5; **122**. 3; **123**. 4; **124**. 245; **125**. 135; **126**. 134; **127**. 1245; **128**. 135; **129**. 246; **130**. 135; **131**. 24; **132**. 135; **133**. 24; **134**. 246; **135**. 135; **136**. 2; **137**. 1246; **138**. 1; **139**. 2; **140**. 3; **141**. 3; **142**. 1; **143**. 235; **144**. 4; **145**. 235; **146**. 135; **147**. 2; **148**. 4; **149**. 135; **150**. 136; **151**. 135; **152**. 135; **153**. 3; **154**. 2; **155**. 2; **156**. 3; **157**. 4; **158**. 5; **159**. 3; **160**. 4; **161**. 5; **162**. 3; **163**. 124; **164**. 13; **165**. 1; **166**. 23; **167**. 24; **168**. 1; **169**. 1; **170**. 14; **171**. 13; **172**. 135; **173**. 3456; **174**. 3; **175**. 12; **176**. 1; **177**. 12; **178**. 145; **179**. 3; **180**. 1; **181**. 2; **182**. 4; **183**. 5; **184**. 2; **185**. 2; **186**. 4; **187**. 24; **188**. 135; **189**. 135; **190**. 134; **191**. 234; **192**. 14; **193**. 1345; **194**. 4; **195**. 356; **196**. 124; **197**. 13467.

Module 2. Scientific ethics

198. 1; **199.** 2; **200.** 3; **201.** 4; **202.** 135; **203.** 135; **204.** 12; **205.** 135; **206.** 1356; **207.** 156; **208.** 2; **209.** 4; **210.** 1 ; **211.** 2; **212.** 14; **213.** 1234; **214.** 13; **215.** 24; **216.** 13; **217.** 34; **218.** 1356; **219.** 235; **220.** 24; **221.** 146; **222.** 3; **223.** 135; **224.** 245; **225.** 1345; **226.** 135; **227.** 2; **228.** 135; **229.** 1; **230.** 2; **231.** 136; **232.** 2356; **233.** 1235; **234.** 1345; **235.** 1345; **236.** 1345; **237.** 1245; **238.** 1235; **239.** 135; **240.** 2; **241.** 3; **242.** 1; **243.** 2; **244.** 3; **245.** 1235; **246.** 1234; **247.** 4; **248.** 14; **249.** 124; **250.** 13; **251.** 23; **252.** 235; **253.** 1345; **254.** 5; **255.** 1 ; **256.** 4; **257.** 7; **258.** 6; **259.** 2; **260.** 124; **261.** 245; **262.** 3; **263.** 23; **264.** 24; **265.** 123; **266.** 12; **267.** 1245; **268.** 3; **269.** 135; **270.** 235; **271.** 234; **272.** 123; **273.** 124; **274.** 3; **275.** 135; **276.** 23; **277.** 35; **278.** 2; **279.** 245; **280.** 4; **281.** 1; **282.** 134; **283.** 2; **284.** 235; **285.** 1234; **286.** 5; **287.** 234; **288.** 3; **289.** 1; **290.** 1245; **291.** 135; **292.** 2; **293.** 134; **294.** 3; **295.** 234; **296.** 5; **297.** 6; **298.** 123; **299.** 45; **300.** 6; **301.** 1245; **302.** 245; **303.** 1345; **304.** 1234; **305.** 1; **306.** 145; **307.** 5; **308.** 1; **309.** 4; **310.** 2; **311.** 2; **312.** 135; **313.** 235; **314.** 245; **315.** 4.

RECOMMENDED READING AND ONLINE RESOURCES

1. 10 guidelines for an awesome poster. URL: https://younghs.com/2017/03/09/10-guidelines-for-an-awesome-poster/
2. A for and against essay. LearnEnglish Teens - British Council. URL: https://learnenglishteens.britishcouncil.org/skills/writing/b1-writing/against-essay.
3. Annotating Texts - UNC Learning Centre. URL: https://learningcenter.unc.edu/tips-and-tools/annotating-texts/.
4. Betz F. Managing Science. Methodology and Organisation of Research. Springer New York. 2011. 388 p. DOI 10.1007/978-1-4419-7488-4. URL: https://fmipa.umri.ac.id/wp-content/uploads/2016/03/Frederick_Betz_Managing_Science_Methodology_andBookFi.org_2.pdf.
5. Characteristics of Multimedia. URL: https://www.collegenote.net/curriculum/introduction-to- information-technology/22/5 8/.
6. Chicago Style Citation Quick Guide: Author-Date. The Chicago Manual of Style/University of Chicago Press. Chicago: University of Chicago Press, 2010. URL: https://library.bowdoin.edu/research/chicago-author-date.pdf.
7. Chicago-Style Citation Quick Guide: Notes and Bibliography. The Chicago Manual of Style/University of Chicago Press. Chicago: University of Chicago Press, 2010. URL: https://www.chicagomanualofstyle.org/tools_citationguide.html .Cotter R., Marti-Subirana A., McGraw M. BIO181: General Biology (Alu Sequences). URL: https://phoenixcollege.libguides.com/BIO181/Alu/annotating.
8. Coghill A. M. [and] Garson L. R., editors. The ACS style guide: effective communication of scientific information. American Chemical Society Washington, Dc Oxford University Press. 3rd ed. Washington; New York: American Chemical Society Washington; Dc Oxford University Press, 2006. URL: http://www.jlakes.org/config/hpkx/news_category/2017-02-14/ACS-StyleGuide.pdf.
9. Essay. URL: https://en.wikipedia.org/wiki/Essay.
10. Goldman H. How to Create a Multimedia Presentation in 7 Easy Steps., May 11, 2023. URL: https://penji.co/multimedia-presentation/.
11. .Grant E. Transformation of medieval natural philosophy from the early modern period to the end of the nineteenth century. A History of Natural Philosophy. New York: Cambridge University Press. 2007. 274 p.
12. Holbrook A., Bourke S., Lovat T., Dally K. Qualities and Characteristics in the Written Reports of Doctoral Thesis Examiners. Australian Journal of Educational & Developmental Psychology. Vol 4, 2004, pp 126-145.
13. Lindberg D. C. The recovery and assimilation of Greek and Islamic science. The Beginnings of Western Science (2nd ed.). Chicago: University of Chicago Press. 2007. P. 225-253.
14. Purrington C. B. Designing conference posters. Retrieved 20 January 2017. URL: http://colinpurrington.com/tips/poster-design.
15. Requirements for writing and preparing a report. URL: https://www.skillsyouneed.com/write/report-writing.html
16. The Library's Catalogue: From Cards to Databases. URL: https://digitalcommons.unf.edu/cgi/viewcontent.cgi?article=1018&context=bliss.
17. Understanding the Characteristics of a Good Report. Posted in Forensics and Investigations on 23 August 23, 2023. URL: https://financialcrimeacademy.org/characteristics-of-a-good-report/

CONTENTS