

CRITERIA FOR EVALUATION OF STUDENTS' KNOWLEDGE OF BIOCHEMISTRY

Based on the Resolution of the Ministry of Education of the Republic of Belarus (13/10/2023)

(Approved at the meeting of biochemistry department on 18/12/2023)

1. CRITERIA

evaluation of student response to the practical lesson of Biological Chemistry

10 (ten) points:

- The student study the underlying course material and additional literature on the subject of the current and previous studies,
- consistently and logically correct the material presented, using the response examples to illustrate the basic theoretical principles,
- comprehensively answers the questions altered, without a direct answer in the book, involving knowledge of other disciplines,
- able to analyze the clinical significance of biochemical processes analyzed in the course of employment, to provide a reasoned justification for the studied communication issues with other sections of the discipline,
- the ability to understand complex scientific problems, to solve non-standard tasks, engage in dialogue with the teacher,
- able to work independently in laboratory classes and take an active part in group discussions

9 (nine) points deserve a student:

- shows complete mastery of basic educational material current and previous studies,
- familiarity with additional literature on the issue,
- owns the conceptual apparatus of the subject and the proper use of scientific terminology in presenting the material in their own words,
- who can answer their own examples illustrate,
- properly and thoroughly answering any questions the teacher,
- knows how to solve complex problems, analyze the clinical relevance of biochemical processes, understands the lesson?

able to work independently in laboratory classes and take an active part in group discussions

8 (eight) points the student is exposed:

- Recognize the assimilation of the total program material current and previous studies,
- knows how to allocate it to the principal of and consciously apply their knowledge in practice

able to work independently in laboratory classes and take an active part in group discussions

7 (seven) points worthy of a student:

- knowledgeable and well determined the material presented, the recommended program of study in the current and previous studies,
- meets with no leading questions, using scientific terminology
- able to solve logical problems and case studies on the topic, to make valid conclusions, able to work independently in laboratory classes and take part in group discussions.

6 (six) scores exhibited a student:

- Recognize the assimilation of the basic material,
- without much difficulty answering questions
- presents the material with the necessary scientific terminology, avoiding serious errors
- some inaccuracies are easily eliminated with the help of leading questions,

- knows how to apply this knowledge in practice for solving educational problems, able to work independently in laboratory classes and take part in group discussions.

5 (five) points deserve a student:

- learn the basic educational program material at a level sufficient for further study, but confused in the literature on the issue,

- responding to questions are not clearly and fully, but capable of self-correction of errors made in response

- able to solve common tasks on the current topic.

- owns the basic concepts and proper use of scientific terminology in the subject

4 (four) score of the student exhibits:

- having a sufficient amount of knowledge within the educational standard, but admits mistakes in his account in his own words,

- find it difficult to confirm the answer with specific examples,

- weak answer additional questions.

- be the ability of the instructor to correct errors made in response to solve common tasks, navigate to the basic theories and concepts of biochemistry,

- able to work under the direction of a teacher in laboratory classes and participate in group discussions from time to time.

3 (three) points the student is exposed:

- Show the total volume of insufficient knowledge on the issue being studied, often located at the level of ideas,

- experiencing difficulty with self-reproduction of the material, insufficient knowledge of the language of science on the subject,

- has committed a fundamental error in the response and appear incompetent in dealing with common tasks

- performs practical tasks poorly

2 (two) is set to the score if:

- the student does not possess the basic program in literature and can not properly use scientific terminology,

- can not be adequately and correctly answer the questions,

- allows for gross fundamental errors in presenting the material.

One (1) exhibited grade student with no knowledge of the program in the amount of training or refusal to answer, unable to perform practical tasks.

2. CRITERIA

EVALUATION OF THE COLLOQUIUM ON BIOLOGICAL CHEMISTRY

The colloquium is composed of **six** equivalent in value to the **issues**, the answer to each of which could bring 2 to 10 points. In sum score a rating based on the following system:

- 1-9 POINTS - 1
- 10-15 POINTS - 2
- 16-21 POINTS - 3
- 22-27 POINTS - 4
- 28-33 POINTS - 5
- 34-39 POINTS - 6
- 40-45 POINTS - 7
- 46-51 POINTS - 8
- 52-57 POINTS - 9
- 58-60 POINTS - 10

The colloquium is composed of **five** equivalent in value to the **issues**, the answer to each of which could bring 2 to 10 points. In sum score a rating based on the following system:

- 1-7 POINTS - 1
- 8-12 POINTS - 2
- 13-17 POINTS - 3
- 18-22 POINTS - 4
- 27-27 POINTS - 5
- 28-32 POINTS - 6
- 33-37 POINTS - 7
- 38-42 POINTS - 8
- 43-47 POINTS - 9
- 48-50 POINTS - 10

The colloquium is composed of **four** equivalent in value to the **issues**, the answer to each of which could bring 2 to 10 points. In sum score a rating based on the following system:

- 1-5 POINTS - 1
- 6-9 POINTS - 2
- 13-0-13 POINTS - 3
- 14-17 POINTS - 4
- 18-21 POINTS - 5
- 22-25 POINTS - 6
- 26-29 POINTS - 7
- 30-33 POINTS - 8
- 34-37 POINTS - 9
- 38-40 POINTS - 10

**Assessment issue when writing the final written work (colloquium)
of Biological Chemistry**

Characteristics of a written answer to the question of assessment	Evaluation
<p>In response to the question reflected:</p> <ul style="list-style-type: none"> - In-depth study of basic and additional literature, given the full comprehensive response, - Excellent knowledge of biochemical terminology - Ability to establish causal relationships, well-diversified and analyze the problem, involving knowledge of other disciplines, - Knowledge of the clinical relevance of biochemical processes and performance. 	10
<p>In response to the question shown:</p> <ul style="list-style-type: none"> - Excellent knowledge of the basic material and familiarity with additional literature - Knowledge of biochemical terminology - A complete, consistent, clear and logical presentation of the material slender, - The ability to make generalizations, argue and justify conclusions - Knowledge of the clinical significance of the illuminated matter - No inaccuracies in response to questions. 	9
<p>The answer to the question shows:</p> <ul style="list-style-type: none"> - Mastering the basic material for the given problem, - Possession of biochemical terminology - No error in the answer to these questions, - The assumption of small inaccuracies in the conclusions, generalizations. 	8
<p>From the answer to the question should be obvious:</p> <ul style="list-style-type: none"> - Knowledge of the student program material, - The ability to respond to questions with a minimum number of inaccuracies, - Ability to apply the theoretical material on the practice in solving problems - Lack of rationalizations for an answer. 	7
<p>The answer to the question reflects:</p> <ul style="list-style-type: none"> - Knowledge of the program material studied, the ability to allocate it the main provisions - Lack of skill on the basis of facts and examples to generalize, draw conclusions, set INTER communication, to apply their knowledge in practice, - The presence of non-robust errors, defects during playback of the material studied. 	6
<p>In response to the question shown:</p> <ul style="list-style-type: none"> - Mastering the basic content of the material on the subject, - A weak argument conclusions and generalizations, for errors in their formulation, fuzzy definitions, - Partial answers to these questions. 	5
<p>The answer to the question indicates:</p> <ul style="list-style-type: none"> - Mastering the minimum amount of program material on a given topic, - The presence of gaps and breach of a logical sequence of presentation, - The presence of errors, not the exact wording. 	4
<p>In response to the question shown:</p> <ul style="list-style-type: none"> - Not full, fragmented ownership of the interviewees material - Significant errors in the answers to these questions, - The inability to solve common tasks within a given topic. 	3
<p>The answer to the question shows:</p> <ul style="list-style-type: none"> - No ownership of the main program material, - The inability to use a special scientific terminology, - The inability to reproduce the material 2 is logically 	2

3. CRITERIA

evaluation of the results of testing conducted during the practice session

Test task consists of 10 questions:

The number of correct answers	Evaluation
0	2
1	2
2	2
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9

4. CRITERIA

assessment of response on exam in Biological Chemistry, based on the recommendations of the Ministry of Education of the Republic of Belarus of 13.10.2023, and experience of the Department of Biochemistry

Questions for exam preparation are available on the website of the Department of Biological Chemistry in the section "Information for the students."

10 (ten) points exhibited a student who showed a comprehensive, systematic and profound knowledge in all areas of the curriculum, as well as on the major issues that go beyond its borders who are fluent in the basic concepts of biological chemistry course, fully understood by primary and secondary literature, the recommended program, stylistically logically correct and accurate presentation of the material. The student needs to know the biochemical composition of living organisms, characteristic properties of substances that are part of the body, their main metabolic pathways, the relationship between different pathways and their regulation. The student must demonstrate the ability to independently and creatively to solve complex problems, analyze the clinical relevance of biochemical processes, to be able to critically assess theories, trends and concepts of biochemistry, to use when answering knowledge of other disciplines.

9 (nine) points deserve a student who showed a deep and systematic knowledge in all areas of the curriculum, is fluent in the basic concepts of biological chemistry course, fully mastered the basic and more familiar with the literature, and stylistically correctly and logically correct setting out the material. The student needs to know the biochemical composition of living organisms, characteristic properties of substances that are part of the body, their main metabolic pathways, the relationship between different pathways and their regulation. The student must demonstrate the ability to independently and creatively to solve complex problems, analyze the clinical relevance of biochemical processes, navigate to the main theories and concepts in biochemistry and give them a critical evaluation.

8 (eight) points exhibited a student who showed systematic and in-depth knowledge on the issues raised in the volume of the curriculum, intelligently and logically correct the material presented, fluent in the basic concepts of biological chemistry courses, learn basic and more familiar with the literature, the recommended program. The student needs to know the biochemical composition of living organisms, characteristic properties of substances that are part of the body, their main metabolic pathways, the relationship between different pathways and their regulation. The student must demonstrate the ability to independently solve complex problems, analyze the clinical relevance of biochemical processes, be able to navigate the basic theories and concepts in biochemistry.

7 (seven) points exhibited a student who showed complete and thorough knowledge in all areas of the curriculum, well-stated material in possession of the basic concepts of biological chemistry courses, learn basic and more familiar with the literature, the recommended program. The student needs to know the biochemical composition of living organisms, characteristic properties of substances that are part of the body, their main metabolic pathways, the relationship between different pathways and their regulation. The student must demonstrate systematic knowledge of biochemistry and their ability to self-replenishment and renewal in the course of further study, to be able to navigate the basic theories and concepts of biochemistry, to learn the basic concepts of the role of biochemistry in the acquisition of a specialty.

6 (six) scores exhibited a student who showed fairly complete and systematic knowledge of the extent of the curriculum, setting forth the material with the necessary scientific terminology, learn the basic literature, the recommended program and able to make informed judgments.

The student needs to know the biochemical composition of living organisms, characteristic properties of substances that are part of the body, their main metabolic pathways, the relationship between different pathways and their regulation. The student must demonstrate the ability to self-

typical problems, be able to navigate the basic theories and concepts of biochemistry, to learn the basic concepts of the role of biochemistry in the acquisition of a specialty.

5 (five) points exhibited a student learn the basic educational program material at a level sufficient for further study – needs, the right uses the basic scientific terminology. The student must demonstrate knowledge of the basic literature in the light of the biochemical composition and properties of substances that make up living organisms, the major metabolic pathways, to be able to reflect the relationship between different metabolic pathways and their regulation. The student must demonstrate the ability to self-correct errors made in response, updating and renewal of knowledge in the course of further studies, typical problems, should be able to navigate the basic theories and concepts of biochemistry.

4 (four) score exhibited a student who has sufficient knowledge in the educational standard. The student must demonstrate knowledge of basic concepts of biochemistry, structure and properties of substances that make up living organisms, the major metabolic pathways, and regulation of their relationships within the primary literature, recommended the program to present a logical answer questions and draw conclusions without significant errors. The student must demonstrate the ability of the instructor to correct errors made in response to solve common tasks, navigate to the basic theories and concepts of biochemistry.

3 (three) points, Fail exhibited a student, who showed not a complete body of knowledge within the educational standard, partial assimilation of the basic program of literature, has committed a fundamental error in describing the chemical composition of living organisms, did not know how to portray the main metabolic pu – ty and give their response, little knowledge of the mechanisms of metabolic regulation, has expressed his inability to navigate the basic theories of Biochemistry and incompetence in dealing with common tasks.

2 (two) points, Fail exhibited a student who showed fragmentary knowledge of the educational standard, does not know the basic programming literature and did not know how to competently use the scientific terminology, a gross fundamental errors in presenting the material.

1 (one) point, Fail exhibited a student in the absence of knowledge within the educational standard, or refusal to answer.