# Фонд
# оценочных средств
по дисциплине «Гистология, эмбриология, цитология»

Уровень высшего образования
СПЕЦИАЛИТЕТ
Направление подготовки
*31.05.01 – РФ, 560001 – КР лечебное дело (для иностранных студентов)*
(код и наименование направления подготовки)

Квалификация
*Врач-лечебник*

2021

Фонд оценочных средств предназначен для контроля знаний обучающихся по направлению подготовки (специальности) «Лечебное дело» для иностранных студентов по дисциплине (практике) *«Гистология, эмбриология, цитология».*

Фонд оценочных средств рассмотрен и утвержден на заседании кафедры

Гистологии, эмбриологии, цитологии
*наименование кафедры*

протокол № 2 от " 22 " сентября 2021 г.

Заведующая кафедрой
гистологии, эмбриологии, цитологии _____ Калугина Ольга Петровна
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## 1. LIST OF COMPETENCIES, INDICATING THE STAGES OF THEIR FORMATION DURING THE PROCESS OF MASTERING THE DISCIPLINE

| Formed competencies | Formed competencies Planned learning outcomes in the discipline, characterizing the stages of competency formation | Types of assessment tools/ section code in this document |
|---|---|---|
| **GSC – 3** - capable and ready to collect, process and interpret the data necessary to form judgments on relevant social, scientific and ethical issues with the use of modern information technologies | **Knowledge:**<br>- know modern information technologies;<br>know how to process scientific data;<br>- know how to process and interpret scientific data using modern information technologies. | **Block A, D** – reproductive level tasks<br>– test<br>– abstract<br>– situational tasks |
| | **Skills::**<br>- to be able to use modern information technologies;<br>- to be able to collect, process and interpret scientific data;<br>-to be able to collect, process scientific data and interpret them.. | **Block B, D** – reconstructive level tasks<br>– solving situational problems<br>– test<br>. |
| | **Expertise**<br>- possess modern information technologies;<br>- possess modern methods of collecting, processing and interpreting scientific data;<br>- collect, process and interpret with the use of modern information technologies the data necessary for forming judgments on topical social, scientific and ethical issues. | **Block C, D** – practice-oriented and/or research level assignments |

| Формируемые компетенции | Планируемые результаты обучения по дисциплине, характеризующие этапы формирования компетенций | Виды оценочных средств/ шифр раздела в данном документе |
|---|---|---|
| **PC – 15** – capable and ready to analyze the patterns of functioning of individual organs and systems, use | **Knowledge:**<br>- Features of the structure and function of cells in a living organism. General patterns and stages of human embryonic development; | **Block A, D** – reproductive level tasks<br>– test<br>– abstract<br>– situational tasks |

| Формируемые компетенции | Планируемые результаты обучения по дисциплине, характеризующие этапы формирования компетенций | Виды оценочных средств/ шифр раздела в данном документе |
|---|---|---|
| knowledge of anatomical and physiological characteristics, basic methods of clinical and laboratory examination and assessment of the functional state of the | - Sources of development, classification, general morpho-functional characteristics, structural features and functions of the main types of tissues<br>- Structural components and tissue composition of organs of various systems in the human body. Issues of tissue regeneration and the limits of their variability. | |
| | **Skills:**<br>- Use a biological microscope. Microscopy histological preparations using dry and immersion microscope systems.;<br>- Diagnose cells, tissues and organs of various systems at the microscopic level. Differentiate different types of cells;<br>- and non-cellular structures, different types of tissues at the microscopic and ultramicroscopic level. Identify at the microscopic level the structural elements of organs and the tissues, cells and non-cellular structures that form them. - Draw a histological specimen and identify its structural elements. Compose a written description of the histological specimen (protocol) and give an oral description of the objects being studied. Describe electron micrographs of cells. | **Block B, D** – reconstructive level tasks – solving situational problems<br>- test. |
| | **Expertise:**<br>- Skills in identifying organs, tissues, cells at the microscopic level. skills to describe microstructures;<br>- The main histological | **Block C, D** – practice-oriented and/or research level assignments |

| Формируемые компетенции | Планируемые результаты обучения по дисциплине, характеризующие этапы формирования компетенций | Виды оценочных средств/ шифр раздела в данном документе |
|---|---|---|
| | methods for analyzing and assessing the state of normality of living systems;<br>- Abstracting skills; information retrieval skills; skills in working with reference literature. | |

## 2. TECHNOLOGICAL MAP OF DISCIPLINE/PRACTICE

# Technological map of the discipline «Histology, embryology, cytology»

Course/semester: 1/2
Number of credits (ZE): 2
Reporting: test

| Name of modules | Control | form of control | Scoring minimum | Scoring maximum | schedule of control (semester, wee |
|---|---|---|---|---|---|
| **Rating control 1.** | | | | | |
| **Cytology. Embryology.** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation. | 3 | 5 | 27 |
| | Mid-term control | Testing. | 10 | 20 | |
| **Rating control 2** | | | | | |
| **The general histology** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation. | 3 | 5 | 37 |
| | Mid-term contro | Interview | 24 | 40 | |
| | | | | | |
| **Total** | | | 40 | 70 | |
| **Intermediate control. CREDIT.** | | | 20 | 30 | |
| **Semester rating by discipline** | | | 60 | 100 | |

## 2. TECHNOLOGICAL MAP OF DISCIPLINE/PRACTICE

# Technological map of the discipline «Histology, embryology, cytology»

Course/semester: 1/3
Number of credits (ZE): 4
Reporting: exam

| Name of modules | Control | form of control | Scoring minimum | Scoring maximum | schedule of control (semester, |
|---|---|---|---|---|---|
| **Rating control 1** | | | | | |
| 1. **Нервная, эндокринная системы, органы сердечно-сосудистой системы, органы кроветворения и иммунитета** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation. | 3 | 5 | 4 |
| | Mid-term control | Testing. | 8 | 15 | |
| **Rating control 2** | | | | | |
| 2. **Пищеварительная система** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation | 3 | 5 | 9 |
| | Mid-term control | Interview.. | 8 | 15 | |
| **Rating control 3** | | | | | |
| 3. **Дыхательная, выделительная система, кожа** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation. | 3 | 5 | 15 |
| | Mid-term control | Colloquim.. | 9 | 15 | |
| **Rating control 4** | | | | | |
| 4.**Репродуктивная система** | Current control | Attendance is considered. Students' independent work (SIW): essay / presentation on the topic of the lesson. Testing, interview on questions, description of micropreparation. | 3 | 5 | 18 |
| | Mid-term control | Testing.. | 3 | 5 | |
| **Total** | | | 40 | 70 | |
| **Intermediate control. CREDIT.** | | | 20 | 30 | |
| **Semester rating by discipline** | | | 60 | 100 | |

## 3. STANDARD CONTROL TASKS AND OTHER MATERIALS NECESSARY FOR EVALUATING PLANNED LEARNING RESULTS IN THE DISCIPLINE (ASSESSMENT TOOLS)

### Block A (I semester)

A. 1. Survey Questions

Subject 2. Cytology. Cell structure. Organoids for general and special purposes. Inclusions.

2.1 What are the main chemical components included in the composition? cell membrane?

1) glycogen, proteins, polysaccharides;
2) phospholipids, proteins, polysaccharides;
3) phospholipids, acids, polysaccharides;
4) proteins, acids, polysaccharides.

2.2 What structural elements is the cytoplasm made of?

1) organelles, cytolemma, karyoplasm;
2) inclusions, nucleus, hyaloplasm;
3) organelles, inclusions, hyaloplasm;
4) cytolemma, nucleus, inclusions.

2.3 Which general purpose organelle is the source energy in the cell?

1) mitochondria;
2) microtubules;
3) lysosomes;
4) ribosomes

Topic 3. Core. Cell cycle. Cell division.

3.1 Which cell organelle forms the cell division spindle?

1) ribosome;
2) mitochondria;
3) microtubules;
4) lysosome.

3.2 Determine the source of ribosome development:

1) endoplasmic reticulum;
2) Golgi complex;
3) cell center;
4) nucleolus.

3.3 What structural elements form the nucleus?

1) hyaloplasm, organelles, cytoplasm;
2) karyoplasm, chromatin, karyolemma;
3) organelles, nucleolus, inclusions;
4) chromatin, hyaloplasm, karyolemma.

Topic 4. General embryology. Progenesis, fertilization

4.1 What organelle does the egg lack?

1) endoplasmic reticulum;

2) centrosomes;
3) lysosomes;
4) ribosomes.
4.2 Which general-purpose organelle is modified in the sperm, when damaged, fertilization
impossible?
1) endoplasmic reticulum;
2) mitochondria;
3) Golgi complex;
4) lysosomes.
Topic 5. Stages of embryogenesis. Cleavage, gastrulation.
5.1 Determine the second stage of embryogenesis – fragmentation and formation of the blastula:
1) a complex process of chemical and morphological changes, resulting in the formation of germ layers;
2) the fusion of male and female reproductive cells, resulting in the formation of a zygote;
3) repeated mitotic division of the zygote, in which there is no growth period;
4) differentiation of embryonic primordia with the formation of tissues and organs.
5.2 Determine the type of fragmentation of the human zygote:
1) complete uniform;
2) completely uneven;
3) incomplete discoidal;
4) incomplete superficial.
5.3. Define the third type of embryogenesis – gastrulation:
1) a complex process of chemical and morphological changes, as a result of which germ layers are formed;
2) the fusion of male and female reproductive cells, resulting in the formation of a zygote;
3) repeated mitotic division of the zygote, in which there is no growth period;
4) differentiation of embryonic primordia with the formation of tissues and organs.
A.2. Questions for border control
Module 1. Cytology and embryology.

1. . The main stages of manufacturing histological preparations.
2. . General characteristics of the structure and function of cells.
3. . Cytoplasm, composition, functions.
4. . Types of intercellular contacts.
5. . Cytolemma, structure, functions.
6. General-purpose organelles of membrane origin (endoplasmic reticulum, Golgi complex, lysosomes, peroxisomes, mitochondria), structure, functions.
7. General purpose organelles of non-membrane origin (ribosomes, microtubules, centrosome)

8. Organelles for special purposes (tonofibrils, myofibrils, neurofibrils, microvilli, cilia, flagella, synaptic vesicles).
9. Inclusions, types, functions.
10. Core, composition, functions.
11. Karyolemma, nuclear pores, structure, functions.
12. Morphology of mitotic chromosomes, nucleolus, structure, functions.
13. Characteristics of the cell life cycle.
14. Interphase, periods (G0, G1, S, G2) duration, functions.
15. Cell division (mitosis, amitosis, meiosis).
16. Mitosis – indirect cell division, phases, processes, duration, disorders.
17. Amitosis – direct cell division, types, features.
18. Reactive changes in cells under the influence of extreme environmental factors.
19. Spermatogenesis, stages.
20. Oogenesis, stages. Сперматозоид, строение, функция.
21. Ovum, structure, classification.
22. Stages of embryogenesis.
23. Fertilization, phases (approach, penetration, synkaryon).
24. Cleavage, types, grooves, types of blastula, structure.
25. Gastrulation, types.
26. Differentiation of germ layers.
27. Histogenesis.
28. Organogenesis.
29. Extraembryonic organs (amnion, allantois, yolk sac, serous membrane), structure, functions.

Module 2. General histology.

1. Morphological classification of epithelial tissue.
2. Genetic classification of epithelial tissues (according to N. G. Khlopin).
3. Single-layer epithelium (single-row, multi-row).
4. Multilayer epithelium (transitional, non-keratinizing, keratinizing).
5. Classification of exocrine glands by structure (simple, complex), by type of secretion (merocrine, apocrine, holocrine).
6. Blood, composition, functions.
7. Embryonic and postembryonic hematopoiesis.
8. Erythrocytopoiesis, red blood cells, structure, types, function.
9. Granulocytopoiesis, granulocytes (neutrophils, eosinophils, basophils).
10. Agranulocytopoiesis, agranulocytes (monocytes, lymphocytes).
11. Thrombocytopoiesis, platelets.
12. Hemogram and leukocyte formula.
13. Classification of connective tissues themselves.
14. Loose fibrous unformed connective tissue, cellular composition.
15. Dense connective tissue, types, structure of fibers (collagen, elastic).
16. Connective tissues with special properties.

17. Cartilage tissue, sources of development, classification, functions.
18. Cellular composition of cartilage tissue.
19. The structure of hyaline, elastic, fibrous cartilage.
20. Bone tissue, classification, function.
21. Direct and indirect osteogenesis.
22. Cellular composition of bone tissue.
23. Structure of coarse-fiber and lamellar bone tissue.
24. Muscle tissue, classification, functions.
25. Myogenesis, regeneration.
26. Skeletal muscle tissue (devices), structure.
27. Nervous tissue, composition.
28. Development of nervous tissue, stages
29. Classification and structure of neurons.
30. Classification, structure of neuroglia.
31. Nerve fibers, development, types, structure.
32. Morphofunctional classification of nerve endings.

## Block B

IN 1. Situational tasks.

Topic 2. Cytology. Cell structure. Organoids for general and special purposes. Inclusions.

2.1 Problem

The specimen shows a histological structure bounded by a cytoplasmic membrane, with a large amount of cytoplasm and many nuclei. What is it called?

2.2 Problem

While moving, the cell encountered a lump of organic matter. What is the possible mechanism for the entry of this substance into the cell?

2.3 Problem

Using electron histochemistry, it has been established that in the cytoplasm of liver cells (hepatocytes) in the course of life, reticulate structures containing glycogen can appear and disappear. What are these cell structures called?

Topic 3. Core. Cell cycle. Cell division.

3.1 Problem

The cell was treated with a drug that blocks the function of the nucleolus. How will this affect the functioning of cells?

3.2 Problem

The cell was treated with colchicine, a substance that destroys microtubules. What cell functions will be affected?

3.3 Problem

The cell nucleus was treated with a drug that destroys proteins – histones. Which structure will suffer first?

Topic 4. General embryology. Progenesis, fertilization.

4.1 Problem

Along the female genital tract, sperm move towards the egg against the fluid (distant stage of fertilization). What is the name of this direction of movement?

4.2 Problem
The electronogram shows male and female reproductive cells. How can you distinguish an egg from a sperm based on the composition of its organelles?
4.3 Problem
During fertilization, a sperm carrying the "Y" chromosome enters the egg. What is the sex of the future embryo?

## Block C

C.2 Individual creative tasks
Topics of SRS abstracts on cytology, histology and embryology
II SEMESTER
1. History of the creation of a light microscope. The formation of histology as a science. Possibilities of electron microscopy.
2. History of the doctrine of the cell. Modern provisions of cell theory. Contribution of T. Schwann, M. Schleiden, R. Virchow to the development of cell theory.
3. Structure and functions of the nucleus.
4. Eu- and heterochromatin. Importance for diagnosing the functional state of cells. Structure and functions of biological membranes.
5. Organelles of synthesis. Endoplasmic reticulum and ribosomes. Structure and functions.
6. Golgi apparatus. Structure. Functions.
7. Cell energy supply apparatus. Mitochondria. Structure. Functions.
8. Organelles of movement.
9. Fibrillar-contractile structures of the cell.
10. Peroxisomes. Structure, origin, functions.
11. Lysosomes. Structure. Functions.
12. Modern ideas about the life cycle of a cell.
13. Regulation of the cell cycle.
14. Apoptosis.
15. Intercellular contacts. Types. Structure. Functions.
16. Mitosis. Modern representations. Mitosis disorders.
17. Polyploidy. Concept, development mechanisms, biological significance.
18. Structure and functions of basement membranes.
19. Histological characteristics of the glandular epithelium.
20. The blood system is normal and in various diseases.
21. Features of the blood system in children. Features of hematopoiesis in children.
22. Hematopoietic stem cells.
23. Macrophages. Origin, structure, functions.
24. Neutrophils. Structure. Functions. Role in the body during pathology.
25. Platelets. Origin. Structure. Functions. Role in the body.
26. Development and heterogeneity of mast cells. Morphofunctional characteristics.
27. Classical macrophages and dendritic cells. Development.

28. Morphology. Functions. Development, heterogeneity, morphofunctional characteristics of fibroblasts.
29. Structure, biosynthesis and fibrillogenesis of elastin.
30. The main substance of connective tissue. Components of the main substance and their functions.
31. Histogenesis, structure and functions of brown adipose tissue. The importance of brown adipose tissue in children.
32. Regeneration and age-related changes in bone tissue.
33. Physiological and reparative regeneration of striated muscle tissue. Stimulation of regeneration. Histochemical and structural aspects of the functioning of the contractile apparatus of striated muscle tissue. Adaptation of skeletal muscle tissue to various types of physical activity.
34. Smooth muscle tissue. Types. Histophysiology. Regeneration.
35. Striated muscle tissue. Kinds. Structure. Functions.
36. Cardiomyocyte. Types. Ultrastructure. The mechanism of contraction of working cardiomyocytes. Histogenesis of striated and smooth muscle tissue.
37. Age-related changes in muscle tissue.
38. Pathology of striated muscle tissue. Muscular dystrophy.
39. Morphofunctional characteristics of synapses. Regeneration. Pathomorphology.
40. Regeneration and age-related changes in nervous tissue.
41. Histogenesis, structure and functions of neuroglia.
42. Sources of development and histogenesis of nervous tissue.
43. Morphofunctional characteristics of receptors.
44. Blood-brain barrier.
45. Myelogenesis. Morphofunctional characteristics of myelin nerve fibers. Development and morphofunctional characteristics of unmyelinated nerve fibers.
46. Morphofunctional characteristics of a neuron.
47. Cytoarchitecture of the cerebral cortex. Modular organization of cortical zones. Development of the cerebral cortex.
48. Development, neuronal and synaptic organization of the cerebellum. Myeloarchitecture.
49. Histological structure and functional characteristics of the olfactory organ.
50. Olfactory analyzer. Histogenesis, regeneration and age-related changes in the olfactory organ.
51. Vomeronasal organ.
52. Visual analyzer. Structure. Functions.
53. Theories of visual perception. Visual impairment.
54. The structure of the retina.
55. Eye membranes. Structure and functions of the cornea.
56. Eye membranes. Structure and functions of the retina.
57. Structure of the organ of Corti.
58. Hearing analyzer. Theories of sound perception.
59. Hearing analyzer. Hearing impairment.
60. Organ of balance. Structure. Functions.

61. Mast cells and their role in the body.
62. Fibroblasts and their role in the body.
63. Immunological aspects of apoptosis.
64. Lung macrophages and their functions.
65. Features of immunological regulation of embryogenesis.
66. Critical periods of development. Deviations in fetal development.
67. Types of placentas.

## Block D

*List of questions and tasks for intermediate certification (test with assessment):*
*Questions to check the level of training KNOW:*
List of questions and tasks for intermediate certification (test with the assessment of the cellular organization of living organisms, molecular mechanisms of processes in normal and pathological conditions;
-molecular mechanisms of transport, intercellular interactions, patterns of processes and mechanisms of storage, transmission and use of information in the cell;
-structural and functional organization of genetic material, cytological foundations of various forms of reproduction of organisms;
-methods of histological, cytological and embryological studies, basic principles of making preparations for light microscopy
th):
Questions to check the level of training KNOW:;
- basics of general embryology, human embryology;
-tissues as systems of cells and their derivatives, the concept of cell populations, determination and differentiation of cells, patterns of emergence and evolution of tissues, tissue regenerative abilities;
-general morphofunctional characteristics of epithelial, connective, muscle and nervous tissues;
-general morphofunctional characteristics of systems and organs
*Questions to check your level of training BE ABLE TO*:
- microcopying of histological preparations;
-calculation of the leukocyte formula in a blood smear;
- "reading" histological and embryological preparations using a microscope;
- "reading" histological and embryological microphotographs and drawings corresponding to the specified preparations;
-sketches of histological and embryological preparations;
- "reading" electron micrographs of cells and non-cellular structures of tissues and organs;
- drawing up a protocol (written and oral description) of the objects being studied
*Questions to check the level of PROFICIENCY training:*
- mastering in practical classes histological methods in the scientific and practical work of a doctor (coloring blood smears, sections of tissues and organs, etc.), followed by analysis of manufactured drugs;

-differential diagnostics of micropreparations and electron micrographs used in practical classes;
- solving situational problems that require the synthesis of knowledge from different sources of information (lectures, textbook, practical exercises, etc.).

**4. METHODOLOGICAL MATERIALS DETERMINING PROCEDURES FOR ASSESSING KNOWLEDGE, ABILITIES, SKILLS AND (OR) ACTIVITY EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCY FORMATION**

**DESCRIPTION OF INDICATORS AND CRITERIA FOR ASSESSING COMPETENCIES, DESCRIPTION OF ASSESSMENT SCALES**

List of types of assessment tools.

Test. Interview. Diagnostics of microspecimens. Situational task. Report with presentation. Abstract.

**TEST GRADING SCALE**

One test task contains 10 closed questions for assessment - "know". The student must remember that for one test question, from the four indicated answers, choose the only correct one. For each correct answer - 10%. The overall score for the test is determined as the sum of the percentages scored.

**INTERVIEW RATING SCALE**

| № | Indicator name: | Mark in% |
|---|---|---|
| The form | **0-80** | |
| 1. | deep and solid assimilation of the material of the section; | 0-20 |
| 2. | complete, consistent, competent and logically stated answers; | 0-20 |
| 3. | demonstration by the student of knowledge in the volume of the passed program and information from additional literature;; | 0-20 |
| 4. | reproduction of educational material with the required degree of accuracy.. | 0-20 |
| ANSWERS ON QUESTIONS | **0-20** | |
| TOTAL | **100%** | |

**SCALE FOR ASSESSING ANSWER FOR MICROPROOF DIAGNOSTICS**

The mark is set on a 100-point scale and corresponds to the number of correctly identified micropreparations. An unsatisfactory mark received by a student on a test must be retaken until he receives a positive mark.

**Instructions for assessing response using microscopic specimens.**

85-100 points are awarded if the student:

a) determined the drug and gave a complete response according to plan;

b) correctly completed the tasks for diagnosing histological microslides, provided comprehensive information showing deep knowledge on this issue (with examples).

70-84 points are awarded if the student: a) identified the drug, answered all questions according to the plan, but made inaccuracies and minor errors; b) 80% of the theoretical material has been covered or minor errors have been made when performing tasks on the diagnosis of histological micropreparations. gave comprehensive information showing deep knowledge on this issue (with examples). 60-69 points are given if the student: a) identified the drug, but did not answer completely; b) 60% of the material is covered or gross errors were made when completing tasks for diagnosing histological microslides. 59 or less is given if the student: a) did not identify the drug b) less than 50% was covered or gross errors were made when filling out SRS tasks for diagnosing microslides.

## RATING SCALE FOR SOLVING A SITUATIONAL PROBLEM

The situational task (assessment of "own") consists of a condition and a task of 3-5 questions of a histological focus. The overall score is determined as the sum of the points scored based on the results.

| № | Indicator name | Mark in% |
|---|---|---|
| 1. | When answering questions, the ability to analyze information was demonstrated; | **0-25** |
| 2. | the ability to synthesize new information has been demonstrated; | **0-25** |
| 3. | explanations are given and reasonable conclusions are made based on the interpretation of information | **0-25** |
| 4. | cause-and-effect relationships are established, regularities are revealed. | **0-25** |
| TOTAL | **100%** | |

**RATING SCALE FOR REPORT WITH PRESENTATION**

| № | Indicator name: | Mark in% |
|---|---|---|
| 1. | **The relevance and relevance of the material to the chosen topic in the discipline under study** | **0-10** |
| 2. | Information sufficiency: the presence of a logical structure for constructing a presentation: introduction with problem statement; the main part, divided by main ideas; conclusion with conclusions obtained as a result of reasoning. | **0-25** |
| 3. | Style and language of presentation: (appropriate use of terminology, clarification of concepts, diagrams, conciseness, consistency, correct application and design of quotations, use of professional terms, stylistic construction of phrases, etc.). | **0-20** |
| 4. | **The adequacy and number of sources of information used..** | **0-10** |
| 5. | Aesthetic design of the work (neatness, use of MS Power Point, text formatting, highlighting, use of diagrams, drawings, diagrams and animations, etc.) | **0-20** |
| 6. | The presence of an expressed own position, including when | **0-10** |

| | | |
|---|---|---|
| | answering questions. | |
| 7 | **Compliance with the regulations..** | **0-5** |
| TOTAL | **100%** | |

## INTERMEDIATE CONTROL RATING SCALE

One test task contains 30 closed questions for assessment - "know". The student must remember that for one test question, from the four indicated answers, choose the only correct one. The overall score for the test is determined as the sum of the percentage points from 20 to 30 according to the Technological Map of the discipline (Appendix 7): 20 - 23 - "satisfactory"; 24-27 - "good"; 28-30 - "excellent".

## 5. METHODOLOGICAL INSTRUCTIONS FOR STUDENTS ON MASTERING DISCIPLINE AND COMPLETING CONTROL TASKS

### BASIC REQUIREMENTS FOR INTERMEDIATE CONTROL

The teacher is given the right to give a grade without questioning the ticket to those students who scored more than 60 points for the current and midterm tests.

At the intermediate control, the student must correctly answer the theoretical questions on the ticket and solve a situational task.

Students can use technical means, reference literature, visual aids, training programs.

**Interim control assessment:**

- min 10 points - Questions to check the level of knowledge of KNOW (if the student correctly formulates basic concepts when answering the questions asked)

- 10-30 points – Tasks to check the level of learning to BE ABLE and COMPLIANT (if the student correctly formulates the essence of the problem specified in the ticket and gives recommendations for solving it and fully completing the test task).

### BASIC REQUIREMENTS FOR CURRENT CONTROL.

The study of the theoretical part of the discipline is intended not only to deepen and consolidate the knowledge acquired in classroom classes, but also to contribute to the development of creative skills in students. initiatives and organization of one's own time. Independent work of a student when studying a discipline includes: - reading recommended literature and mastering the theoretical material of the discipline; acquaintance with Internet sources; - preparation for various forms of control (test, test); - work on designing albums - sketching micropreparations; - "reading" and describing micropreparations It is better for students to plan the time needed to study disciplines throughout the semester, while providing for regular repetition of the material. The material outlined in lectures must be regularly reviewed and supplemented with information from other sources of literature, presented not only in the discipline program, but also in periodicals. When studying a discipline, it is necessary to read the recommended literature for each topic and draw up a brief summary of the main provisions, terms, information that requires memorization and is fundamental in this topic, in

order to master subsequent topics of the course. to expand knowledge in the discipline, it is recommended to use Internet resources; conduct searches in various systems and use materials from sites recommended by the teacher. Frontier control (RC). In preparation for solving the test, it is necessary to: - study the relevant pages of textbooks, teaching aids; - use lecture notes or notes from practical material; - read the description of micropreparations and sketch the indicated structures in an album. Tests. When preparing for testing, it is necessary to study the lecture material and the corresponding pages of the textbooks (reading additional literature is advisable). The study of the theoretical part of the discipline is intended not only to deepen and consolidate the knowledge acquired in classroom classes, but also to contribute to the development of students' creative skills, initiative and organization of their free time. As part of the study of the discipline, the following types of tasks for independent work are used:

•independent study of the topic of the theoretical course;
•preparation of oral answers to control questions given after each topic;
•doing homework;
•writing abstracts;
•preparation for practical classes and tests on microscopic specimens;
•preparation of reports and presentations;
•preparation for an interactive lesson;
•preparation for test tasks to master the material;
•solving situational problems on all topics studied;
•making drawings in an album.

HOW STUDENTS PREPARE FOR LECTURES A lecture is the most important form of organizing the educational process:

- introduces new educational material,
-explains educational elements that are difficult to understand,
- systematizes educational material,
-orients in the educational process. In order for a lecture to be productive for a student, it is necessary to prepare for it. Students' preparation for the lecture is as follows:
-find out the topic of the lecture (according to the thematic plan, according to the lecturer),
-read the educational material from the textbook and study guides,
-understand the place of the topic being studied in your professional training,
- write down the main terms,
-answer control questions on the topic of the lecture
-make clusters and syncwines,
- clarify which educational elements remain unclear for you,
-write down the questions that you will ask the lecturer at the lecture.

HOW TO CORRECTLY WRITE A LECTURE NOTE A note (Latin “conspectus” - review) is a creative process that requires certain skills. Tips for taking notes: 1. Don’t try to write down everything the teacher says word for word – it’s impossible. If you strive for this, unfinished sentences and omissions will appear in your entries., which means violations of the logic of presentation of the material,

which will make the notes useless. Learn to write down only the most essential things!2. Learn to "by ear" separate the main position from the secondary one. But this does not mean that you only need to write down the basic provisions and definitions, which, without examples and illustrations, will later turn out to be incomprehensible when reading the notes. Therefore, it is also better to reflect facts and examples. 3. Notes should be concise, logically connected, and represent a place like a detailed outline of a lecture. 4. If the lecture offers diagrams, drawings, tables, they must be completely entered into a notebook. 5. During the course of the lecture the teacher usually notes certain thoughts and positions, so immediately make multi-colored notes and various icons, for example: 1 – important, ? – check, clarify, NB – pay attention. 6. Leave fields in your notebook that can be used later to clarify entries, comments, additions, etc. 7. Use the red line to highlight semantic parts in entries. 8. Try to develop your own system for abbreviating frequently occurring words or replacing them certain signs. This will give you the opportunity to write less, listen and think more. Situational tasks. Solutions to situational problems involve developing students' skills:•анализировать и систематизировать учебный материал;
•integrate morphophysiological features
characteristics of parasites and other theoretical material for constructing a diagnostic hypothesis and an algorithm for professional actions;
•express your point of view in a reasoned manner;
•listen and take into account alternative points of view;
•work in a team.
PRACTICAL LESSONS. Practical classes in the subject of histology are conducted in specially equipped rooms equipped with microscopes and the necessary equipment for their implementation. In conducting practical classes, a creative approach of the teacher is necessary in order to improve the quality of students' knowledge. When discussing the content of a topic, it is recommended to use interactive teaching methods (syncwine, cluster, carousel, mosaic, Venn diagram).
INTERACTIVE CLASSES. The advantages of an interactive lesson over other types of training are that the game used, simulating real situations in a future profession, develops the ability to search for and work with information, and can significantly enhance the student's creative abilities. Visual aids, models, multimedia presentation, educational videos contribute to a better perception of theoretical material, and solving test tasks and situational problems helps to consolidate the material covered and develop analytical thinking. Computerization of all spheres of life creates the need to master training and monitoring computer programs.
DISTANCE LEARNING. Conducting lectures, practical classes, CSR remotely online with
use of the Internet. Conducting practical classes on Skype, ZOOM, Google meet resources and Instagram. Giving lectures on Skype, ZOOM, Instagram, Google meet. Checking written homework by exchanging files on free mail resources - the Mail.Ru service (or using photos via WhatsApp): albums, lecture notebooks,

demonstration and description of microslides, or on the Google classroom platform. Placement of educational and methodological materials on the resources of the department: https://vk.com/public192062648, http://gist.krsu.edu.kg