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**EXAMINATION TEST
“BIOLOGY”**

DEMONSTRATION VARIANT

PART I

Task: choose the right answer.

1. Mucor mold is an example of an organism:

- a) parasitic;
- b) a destroyer of organic substances;
- c) a producer of organic substances;
- d) symbiotic.

2. Algae and other aquatic plants are most often deficient in:

- a) organic substances;
- b) heat;
- c) oxygen and light;
- d) mineral substances.

3. Monocotyledonous plants in the bud:

- a) do not have cotyledons;
- b) have two cotyledons;
- c) have one cotyledon;
- d) have three cotyledons.

4. Animals of the same species, sex and age have the same _____ reflexes:

- a) conditional;
- b) unconditional;
- c) acquired on the basis of life experience;
- d) not inherited.

5. One of the signs proving complication of amphibians (in comparison with fish) is:

- a) three-chambers heart and two circles of blood circulation;
- b) membrane among the toes of the hind legs;
- c) internal skeleton;
- d) digestive, circulatory and other organ systems.

6. Vertebrates with dry skin, covered with Horny scales or bone shields, with unstable body temperature is classified as:

- a) cartilaginous fish;
- b) bony fish;
- c) amphibians;

d) reptiles.

7. The respiratory center regulating the work of the respiratory organs is located:

- a) in the cerebellum;
- b) in the intermediate brain;
- c) in the midbrain;
- d) in the medulla oblongata.

8. The spinal cord is an integral part of the _____ nervous system:

- a) peripheral;
- b) vegetative;
- c) somatic;
- d) central.

9. The liver belongs to the _____ organ system:

- a) excretory;
- b) digestive;
- c) respiratory;
- d) endocrine.

10. Individual signs of every person's blood are characterized by:

- a) degree of oxygen in blood;
- b) relative constancy of salt concentration;
- c) Rh factor and blood type;
- d) the presence of erythrocytes, leukocytes and platelets in the blood plasma.

11. In many people with farsightedness, the image is focused:

- a) on the retina;
- b) behind the retina;
- c) in front of the retina;
- d) in the lower part of the retina.

12. Immunity is provided by the ability of:

- a) hemoglobin to attach and release oxygen;
- b) blood to form a blood clot in injuries;
- c) the body to absorb organic substances;
- d) the body to produce antibodies and of phagocytosis.

13. _____ can change the size:

- a) Some bodies of non-living nature (e.g. crystals);
- b) Plants that grow during the whole life;
- c) Bodies of non-living nature and living organisms;
- d) Only highly organized animals and humans.

14. Global changes in the biosphere, covering whole our planet, are occurred under the influence of:

- a) changing the season of the year;
- b) fluctuations in the number of species;
- c) human activity;
- d) self-regulation.

15. What structural unit is responsible for the synthesis of a specific protein molecule?

- a) DNA molecule;
- b) nucleotide;

- c) triplet;
- d) gene.

16. How much energy is released in 1 gram of proteolysis?

- a) 17,6 kJ;
- b) 38,9 kJ.

17. What is a monomer of nucleic acid?

- a) amino acid;
- b) nucleotide;
- c) protein molecule.

18. What substances does ribose refer to?

- a) protein;
- b) fat;
- c) carbohydrate.

19. What kind of spiral is a DNA molecule?

- a) single;
- b) double.

20. What is formed in the ribosome during protein biosynthesis?

- a) protein of tertiary structure;
- b) protein of secondary structure;
- c) protein of primary structure;
- d) polypeptide chain.

21. How many alternative characteristics are taken into account in monohybrid cross?

- a) one;
- b) two;
- c) three;
- d) four or more.

22. What signs of variability are inherited to offspring?

- a) modification;
- b) mutational.

23. Term the organelles that contain DNA:

- a) lysosomes;
- b) nucleus;
- c) hyaloplasm;
- d) ribosomes.

24. Sexual process by type of heterogamy (sex cells are different – male and female) is the characteristic for:

- a) higher plants;
- b) multicellular animals;
- c) higher plants and multicellular animals;
- d) all plants, fungi and animals.

25. The sequence of stages of indirect cell division (mitosis) is:

- a) prophase, anaphase, telophase, metaphase;
- b) prophase, telophase, metaphase, anaphase;

- c) metaphase, prophase, telophase, anaphase;
- d) prophase, metaphase, anaphase, telophase.

26. According to the views of J. B. Lamarck on the causes of the observed variability in the nature of organisms, the development of underwater, floating and aerial leaves in the *Sagittarius* is the result of:

- a) direct adaptation to the influence of environmental conditions;
- b) body practice under the influence of environmental conditions;
- c) initial expediency in the structure of the body;
- d) the body's desire to improve.

27. _____ refers to phenotypic variability:

- a) occurrence of the leaves-thorns in the barberry and cactus;
- b) differences in milk yield and milk fat in cows in one herd;
- c) differences in size and shape of leaves in plants of different species;
- d) differences in the time of fruit ripening in apple trees of different sorts.

28. Example of geographical (allopatric) speciation is:

- a) the emergence of cultural plum as a result of the hybridization of thorns with cherry plum;
- b) the formation of the European and Far Eastern subspecies of the common lily of the valley;
- c) the existence of five seasonal races of the Sevan trout, separated by different breeding periods during the year;
- d) the isolation of several species of tits (large, blue tit, tussock, yellow tit, crested) living in different places and eating different food.

29. The first biopolymers on the Earth originated from monomers synthesized by abiogenically with the help of:

- a) reactions catalyzed by enzymes;
- b) thermal energy in conditions of water deficiency and through reactions in which clays served as catalysts;
- c) thermal energy and through reactions catalyzed by enzymes;
- g) reactions catalyzed by ultraviolet radiation, and due to thermal energy.

30. The first living organisms (probiotics) appeared on the Earth, according to the method of breathing and the method of nutrition were:

- a) anaerobic heterotrophs;
- b) anaerobic phototrophs;
- c) aerobic chemotrophs;
- d) aerobic heterotrophs.

31. Extracellular life forms that are capable to reproduce only when they enter the target cell are:

- a) viruses;
- b) bacteria;
- c) lichens;
- d) protozoa.

32. In contrast to the spore bacteria, spore fungus:

- a) serves as an adaptation to survival in adverse conditions;
- b) performs the function of reproduction and dissemination in nature;
- c) represents one cell covered with a dense coat;
- d) represents a number of cells elongated in length.

33. The main role in the destruction of organic compounds in the biosphere belongs to:

- a) saprophyte bacteria;

- b) plants;
- c) vertebrates;
- d) unicellular plants and animals.

34. _____ does not have a cellular structure:

- a) amoeba;
- b) bacteriophage;
- c) lamblia;
- d) euglena green.

35. The principle of creating vaccines and their practical application was introduced into practice by:

- a) I. Mechnikov;
- b) L. Pasteur;
- c) N. Pirogov;
- d) I. Pavlov.

PART II

Task: Complete a phrase (word, word combinations, or a figure).

1. Complete the phrase: "The cell membrane of plants contains _____, which provides the mechanical strength of both the cell and the body of the plant as a whole".
2. Complete the phrase: "_____ division occurs in organisms of plants and animals in somatic cells (cells of the body)".
3. Complete the phrase: "The variability, as a result of which the genotype is unchanged, is called _____".
4. Complete the phrase: "Natural or artificial interbreeding of individuals belonging to different lines of sorts, breeds, and species of plants or animals is called _____".
5. Complete the phrase: "Competitive relationships of individuals of the same species for food sources and the ability to reproduce are called _____".
6. Complete the phrase: "The first terrestrial vertebrates (the first amphibians - stegocephalus) came to the land in the _____ period of the _____ era.
7. Complete the phrase: "Life on Earth was occurred by a _____ way, i.e. due to long chemical evolution from inorganic compounds".
8. Complete the phrase: "Interbreeding in which parents differ only in one sign is called _____".
9. Complete the phrase: "Contractile vacuole in amoeba implements _____ function".
10. Complete the phrase: "The level of glucose in the blood reduces _____".

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