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ФИО: Косенок Сергей Михайлович
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Diagnostic testing
Discipline “Biology”
Term 1

Code, educational program	31.05.01 General Medicine
Specialty	General Medicine
Form of education	Full time
Compiler	Department of Morphology and Physiology
Graduate Department	Internal Diseases

Competence	Tasks	Answer options	Question Difficulty Index
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 1. Heterotrophic organisms are:	a) most protists, animals, fungi, algae; b) most protists, animals, fungi; c) most protists, animals; d) most protists.	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 2. The process of removing substances from the cell as a result of the fusion of the membrane structure of the bubbles with the plasmalemma is called:	1) osmosis; 2) endocytosis; 3) exocytosis; 4) pinocytosis; 5) diffusion.	low
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 3. Somatic cells, unlike germ cells, contain:	1) diploid chromosome number 2) haploid chromosome number 3) cytoplasm 4) cell membrane	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 4. Oogenesis differs from spermatogenesis by:	1) the number of periods (phases) 2) haploid germ cells that are formed in oogenesis ; 3) meiosis 4) crossing over that occurs in prophase 1	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 5. The human brain is formed from:	1) ectoderm; 2) mesoderms; 3) endoderms	low
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 6. Functions of microtubules:	1) transport 2) transport, the formation of the spindle of division 3) transport, the formation of the spindle of division, part of the centrioles, cilia and flagella	mid

		4) transport, the formation of the spindle of division, part of the centrioles, cilia and flagella, the formation of pseudopods	
GPC-5.2 GPC-5.5	<i>Put options in the correct order:</i> 7. After cleavage of the zygote take place:	1) gastrula 2) neurula 3) blastula 4) mesoderm	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 8. The respiratory system of the annelids includes:	1) Skin, trachea, lungs, air sacs 2) Skin, trachea, lungs 3) Skin, trachea 4) Skin	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 9. The second (pulmonary) circuit first occurs in:	1) crocodiles 2) amphibians 3) birds 4) reptiles 5) mammals	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 10. The homodont dental system is defined as:	1) the different types of teeth (incisors, canines, premolars and molars) 2) lack of teeth 3) the absence of teeth on the upper jaw, the presence of teeth on the lower 4) a set of teeth that possess the same tooth morphology	mid
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 11. The cardiovascular system of fish is:	1) a)closed, there is a three- chambered heart 2) closed, there is a two-chambered heart 3) open, there is a two-chambered heart 4) closed, there is no heart 5) there is a four-chambered heart	mid
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 12. The oral cavity not divided into nasal and oral cavity by the palate in next classes :	1) fish 2) amphibians 3) all reptiles 4) reptiles (except crocodiles) 5) mammals	mid
GPC-5.2 GPC-5.5	<i>Establish a correspondence:</i> 13. The main mechanism of penetration into the cell for	1) active transport 2) simple diffusion 3) pinocytosis 4) through the ion channel	mid

	A. O ₂ и CO ₂ B. ions K ⁺		
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 14. The cardiovascular system of crustaceans is	1) three-chamber heart with an incomplete septum in the atrium 2) closed, there is a two-chamber heart 3) open, hemolymph from the vessels enters the lacunae (the spaces between the organs) 4) open, there is a two-chamber heart	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 15. Evolutionary Development of the axial skeleton of chordates includes next ways: 1) the notochord is replaced by the vertebral column, cartilage tissue is replaced by bone, 2) differentiation of the spine into sections, 3) an increase in the number of vertebrae in the sections, 4) evolution from a fin to a five-finger limb, 5) increased mobility of the connection of the limbs with their girdle, 6) formation of the thoracic cage	1) 1, 3, 5, 6; 2) 1, 3, 4, 5; 3) 1, 2, 3, 6; 4) 1, 2, 3, 5	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 16 Terms and definition A. Ontogeny B. Phylogeny	1) The ability of a single cell to divide and produce all the differentiated cells in an organism, including extraembryonic tissues 2) Individual development of an organism, usually from the time of fertilization of the egg to death 3) Process that shows the evolutionary history (relationships) between a set of species or taxa based upon similarities and differences in their physical or genetic characteristics during a specific time	high
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 17. Wolffian duct in females forms:	1) ureter 2) oviduct 3) kidneys 4) it is reduced	high
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 18. Evolutionary	1) 1, 2, 3, 5 2) 1, 4, 5	high

	<p>development of the digestive system of chordates includes: 1) differentiation of the gut tube into sections, 2) development of digestive enzyme, 3) occurrence of teeth and their differentiation, 4) occurrence of the oral apparatus, 5) an increase the surface area of the intestine for absorption due to the elongation of the intestine and the occurrence of villi</p>	<p>3) 1, 2, 3 4) 2, 3, 4, 5</p>	
<p>GPC-5.2 GPC-5.5</p>	<p><i>Put the correct word:</i></p> <p>19. If a 0,3% NaCl solution is added to the blood, then the blood cells will have the process that called</p>		<p>high</p>
<p>GPC-5.2 GPC-5.5</p>	<p><i>Put the correct word:</i></p> <p>20. The ability of a single cell to divide and produce all the differentiated cells in an organism, including extraembryonic tissues is</p>		<p>high</p>

Diagnostic testing
Discipline “Biology”
Term 2

Code, educational program	31.05.01 General Medicine
Specialty	General Medicine
Form of education	Full time
Compiler	Department of Morphology and Physiology
Graduate Department	Internal Diseases

Competence	Tasks	Answer options	Question Difficulty Index
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 1. Mechanical parts of microscope are:	1) arm; 2) eyepiece tube; 3) eyepiece; 4) nose piece; 5) objective lens.	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 2. In the plasma membrane carbohydrates are present	6) only on the exterior surface; 7) evenly in both layers; 8) in some membranes they are located outside, and in others - inside; 9) do not occur in the plasmalemma.	low
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 3. Biological cell membranes provide:	1) compartmentalization; 2) barrier function; 3) formation of ribosomes and polysomes; 4) transport of substances; 5) reception	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 4. Enzymes that facilitate DNA replication:	1) helicase; 2) endonuclease; 3) primase; 4) reverse transcriptase.	low
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 5. A solution of unknown concentration was added to a human blood sample. As a result, the sample turned red due to the destruction of red blood cells. Probably the solution is	1) hypertonic 2) isotonic 3) hypotonic	low
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 6. The chromosome has two	1) prophase of mitosis; 2) metaphase of mitosis; 3) anaphase of meiosis I;	mid

	chromatids in periods:	4) telophase of mitosis.	
GPC-5.2 GPC-5.5	<i>Put options in the correct order:</i> 7. Periods of the cell life cycle:	1) mitosis; 2) G1-period; 3) S- period; 4) G2- period.	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 8. Hormones that suppress the motility of spermatozoa are:	1) gynogamones I; 2) androgamones I; 3) gynagomones II (fertilizins); 4) androgamones II.	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 9. A feature of the stage of the synkaryon of mammals is:	1) different sizes of pronuclei; 2) simultaneous DNA synthesis; 3) contact of pronuclei; 4) the beginning of mitosis	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 10. The doctrine of gradual transformation of one species into another by descent with modification through many generations is:	1) preformism; 2) epigenesis; 3) transformism; 4) vitalism	mid
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 11. Genetic regulation of ontogenesis in vertebrates is regulated by:	1) gene repression; 2) gene derepression; 3) derepression and repression of genes.	mid
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 12. During cloning, the development of the embryo is regulated by genes of:	1) spermatozoon; 2) egg cell; 3) somatic cells.	mid
GPC-5.2 GPC-5.5	<i>Establish a correspondence:</i> 13. Malformations: 1. Hereditary.	a) germline mutations; r) disruption of gene functions;	mid
	2. Non-hereditary.	б) mutations in blastomeres; д) violation of the laying of organs.	
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 14. A genetic variant or subtype of a microorganism with specific	1) specie; 2) breed; 3) sort; 4) strain	mid

	physiological and biochemical features is		
GPC-5.2 GPC-5.5	<i>Establish a correspondence:</i> 15. Arthropod organ systems. 1. Circulatory system. 2. Excretory system. 3. Digestive system. 4. Respiratory system.	Features: 1) The blood is enclosed in the vessels and the heart while circulating 2) three sections of the digestive tube; 3) gills, lungs, trachea; 4) modified metanephridia; 5) Malpighian vessels;	mid
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 16 The living matter of the earth's biosphere forms	1) a thin layer on the surface of the planet; 2) pellicle of life; 3) condensation of life; 4) islands of life.	high
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 17. The biotic factors are	1) UV radiation 2) parasitism 3) oxygen content in the environment 4) climate	high
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 18. Organisms that are tolerate a wide range of environments are	1) homeothermic 2) stenothermal 3) poikilothermic 4) eurythermal	high
GPC-5.2 GPC-5.5	<i>Choose all correct options:</i> 19. The human skeleton is different from that of mammals by	1) spine without bends; 2) arched foot; 3) spine S - shaped curved; 4) the facial part of the skull prevails over the brain; 5) the chest is compressed in the dorsal-abdominal direction; 6) the chest is compressed from the sides.	high
GPC-5.2 GPC-5.5	<i>Choose one correct option:</i> 20. Any population or taxon which have the potential for a particular or total occupation of given free of underutilized home habitats or position in the general economy of nature is	1) race 2) adaptive type 3) ethnicity 4) nationality	high