

Документ подписан простой электронной подписью  
 Информация о владельце:  
 ФИО: Косенок Сергей Михайлович  
 Должность: ректор  
 Дата подписания: 16.06.2026 09:17:41  
 Уникальный программный ключ:  
 e3a68f3eaa1e62674b54f4998099d3d6bfdcf836

## Diagnostic Assessment Template

### Test task for diagnostic assessment by discipline:

#### *Human Genetics, 2<sup>nd</sup> term*

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-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  1. According to Mendel's second law genotypic ratio of	1) 1:1; 2) 1:2:1; 3) 3:1; 4) 9:3:3:1;	low
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  2. After monohybrid cross F2 generation will have genotypic ratio of	1) 1:2:1; 2) 3:1; 3) 9:3:3:1; 4) 1:1;	low
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  3. Genotypic ratio of 9: 3: 3: 1 corresponds to	1) monohybrid cross with complete dominance; 2) monohybrid cross with incomplete dominance; 3) dihybrid cross with complete dominance; 4) dihybrid cross with incomplete dominance.	low
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1	<i>Choose one correct option:</i>  4. The chromosomal theory of inheritance was discovered by American geneticist	1) T. Morgan; 2) G. Mendel; 3) A. Weismann; 4) C. Correns.	low
PC-9.1			

PC-9.2 PC-10.1			
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  5. Gene is:	1) protein region; 2) a species unit; 3) a unit of hereditary information; 4) part of the genome.	low
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  6. All genes located on the same chromosome stay together and form:	1) clutch; 2) allele; 3) linkage group; 4) allelic group.	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  7. Structure of DNA was discovered by:	1) C. Darwin and Wallace 2) M. Schleiden and T. Schwann 3) J. Watson and F. Crick 4) D. I. Mendeleev	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Establish a correspondence:</i>  8. Organism with genotype:  1. AABBCC  2. AABbCc.  3. AABBCc	The number of gamete types:  a) 4 б) 2 в) 1 г) 3	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  9. Parents who have normal hearing (dominant trait) have a child with hearing loss. The genotype of the parents corresponds:	1) AA x aa; 2) Aa x aa; 3) Aa x Aa; 4) AA x BB.	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1	<i>Choose one correct option:</i>  10. The recessive hemophilia gene is located on the X chromosome. Father is hemophilic, mother is not hemophilic (homozygous for this	1) 75% 2) 50% 3) 25% 4) 0 %	mid
PC-9.2 PC-10.1	trait). The probability of having sons with hemophilia is		

GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  11. Find the complementary strand of the DNA molecule for G-C-T-A-A-T-C-C-G	1) C-G-A-U-T-A-G-G-C 2) C-T-A-U-U- G-G-C-G 3) G-C-A-T-T-A-G-G-C 4) C-G-A-T-T-A-G-G-C	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  12. Nitrogenous bases of DNA are:	1) adenine, guanine, ribose, cytosine 2) adenine, guanine, thymine, cytosine 3) adenine, guanine, ural, cytosine 4) adenine, thymine, ribose, cytosine	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose all correct options:</i>  13. Genetic linkage can be:	1) complete; 2) incomplete; 3) fractional.	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose all correct options:</i>  14. With complementary interaction of genes, a new quality of the trait will appear in individuals with the genotype:	1) aaBB. 2) Aabb. 3) AaBb.	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose all correct options:</i>  15. Mutations can cause:	1) hereditary diseases; 2) spontaneous abortions; 3) congenital malformations; 4) oncological diseases.	mid
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Establish a correspondence:</i> 16. Types of genetic variability:  1. Mutation. 2. Recombination.	Examples:  1) crossing over; 2) translocation; 3) DNA repair.	high
GPC-4.2 GPC-4.3	<i>Complete the sentence:</i>	1) genes that cause unregulated cell division;	high
GPC-5.2 GPC-7.2 PC-1.1 PC-9.1	17. Antioncogenes is	2) genes that control metabolism; 3) inactive genes for cell growth and differentiation;	

PC-9.2 PC-10.1		4) genes that produce suppressor protein; 5) altered proto-oncogenes..	
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Complete the sentence:</i>  18. The mother has blood type O, the child has blood type B. A father can't have the following blood type genotypes	1) $I^A I^A$ and $I^B i^0$ ; 2) $I^A I^A$ and $i^0 i^0$ ; 3) $i^0 i^0$ and $I^A I^B$ ; 4) $I^A I^A$ and $I^B I^B$ .	high
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose one correct option:</i>  19. Nucleic acids contain atoms:	1) C, H, O, N, P 2) C, H, O, N, S 3) C, H, O, P, S 4) C, H, N, P, S	high
GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC-9.1 PC-9.2 PC-10.1	<i>Choose all correct options:</i>  20. From a social point of view, medical genetic counseling performs the following functions:	1) explanation in an accessible form of the meaning of medical genetic prognosis; 2) assistance in making the right decision about further childbearing; 3) help in implementing the right solution	high