MASSACHUSETTS BIOLOGY · UNIT 2 · 25 QUESTIONS

Genetics and Heredity — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A gene is best described as a section of DNA that codes for a**

- A Chromosome
- B Protein
- C Lipid
- D Cell

Understand It with Pulse | Flag a mistake

2 **Different forms of the same gene are called**

- A Alleles
- B Codons
- C Proteins
- D Chromatids

Understand It with Pulse | Flag a mistake

3 **An organism genotype is its**

A Observable traits

B Number of chromosomes

C Genetic makeup

D Cell type

Understand It with Pulse | Flag a mistake

4 **An organism phenotype is its**

A DNA sequence

B Allele pair

C Chromosome count

D Observable traits

Understand It with Pulse | Flag a mistake

5 **An organism with two identical alleles for a gene is**

A Homozygous

B Heterozygous

C Hybrid

D Recessive

Understand It with Pulse | Flag a mistake

6 **An organism with two different alleles for a gene is**

A Homozygous

B Heterozygous

C Purebred

D Dominant

Understand It with Pulse | Flag a mistake

7 **In a cross between two heterozygous pea plants Aa times Aa what fraction of offspring are expected to show the dominant trait**

A One fourth

B One half

C Three fourths

D All of them

Understand It with Pulse | Flag a mistake

8 **In a cross between Aa and aa what percent of offspring are expected to be heterozygous Aa**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **If two heterozygous parents have 200 offspring about how many are expected to show the recessive trait**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **Mendel law of segregation states that allele pairs separate during the formation of**

A Gametes

B Proteins

C Ribosomes

D Enzymes

Understand It with Pulse | Flag a mistake

11 **Mendel law of independent assortment states that genes for different traits are inherited**

A Always together

B Independently

C Only from the mother

D Only from the father

Understand It with Pulse | Flag a mistake

12 **When a red flower and a white flower produce pink offspring the pattern is called**

A Codominance

B Complete dominance

C Incomplete dominance

D Linked inheritance

Understand It with Pulse | Flag a mistake

13 **In human blood type a person with type AB blood shows both A and B antigens This is an example of**

A Incomplete dominance

B Recessive inheritance

C Sex linkage

D Codominance

Understand It with Pulse | Flag a mistake

14 **A dihybrid cross between two heterozygous parents is expected to give a phenotype ratio of**

- A 9 to 3 to 3 to 1
- B 3 to 1
- C 1 to 2 to 1
- D 1 to 1

Understand It with Pulse | Flag a mistake

15 **A trait carried on the X chromosome appears more often in males because males have**

- A Two X chromosomes
- B Only one X chromosome
- C No Y chromosome
- D Two Y chromosomes

Understand It with Pulse | Flag a mistake

16 **A female human normally has which pair of sex chromosomes**

A XY

B YY

C XX

D XO

Understand It with Pulse | Flag a mistake

17 **Down syndrome is usually caused by an extra copy of chromosome**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **The failure of chromosomes to separate properly during meiosis is called**

A Nondisjunction

B Transcription

C Replication

D Crossing over

Understand It with Pulse | Flag a mistake

19 **A change in the DNA sequence of a gene is called a**

A Codon

B Mutation

C Allele

D Phenotype

Understand It with Pulse | Flag a mistake

20 **A pedigree chart is most useful for tracing**

A Enzyme activity

B Cell division

C A trait through a family

D Protein shape

Understand It with Pulse | Flag a mistake

21 **A carrier of a recessive disorder has one copy of the recessive allele and usually**

A Shows the disorder

B Has no copies

C Cannot pass it on

D Does not show the disorder

Understand It with Pulse | Flag a mistake

22 **DNA replication produces two molecules each with one old strand and one new strand This is called**

A Semiconservative replication

B Conservative replication

C Translation

D Transcription

Understand It with Pulse | Flag a mistake

23 **During meiosis crossing over exchanges genetic material between**

A Sister chromatids

B Homologous chromosomes

C Ribosomes

D Mitochondria

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24 **Which process creates new combinations of alleles in offspring and increases genetic variation**

A Mitosis

B Cloning

C Sexual reproduction

D Binary fission

Understand It with Pulse | Flag a mistake

25 **Two parents are both heterozygous for a trait What percent of their offspring are expected to be homozygous dominant**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. A
3. C
4. D
5. A
6. B
7. C
8. 50
9. 50
10. A
11. B
12. C
13. D
14. A
15. B
16. C
17. 21
18. A
19. B
20. C
21. D
22. A
23. B
24. C
25. 25

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