MASSACHUSETTS BIOLOGY · FINAL EXAM · 50 QUESTIONS

Final Exam — 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 **In an animal cell most of the DNA is stored in the**

- A Mitochondrion
- B Ribosome
- C Golgi apparatus
- D Nucleus

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 **In evolutionary terms fitness means an organism ability to**

A Run fast

B Survive and reproduce

C Stay large

D Eat many foods

Understand It with Pulse | Flag a mistake

4 **A biotic factor in an ecosystem is a**

A Rock

B Living organism

C Temperature

D Rainfall

Understand It with Pulse | Flag a mistake

5 **The organelle that packages proteins for transport out of a cell is the**

A Golgi apparatus

B Lysosome

C Nucleus

D Vacuole

Understand It with Pulse | Flag a mistake

6 **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

7 **Analogous structures such as bird wings and insect wings are similar because of**

A Shared ancestry

B Similar functions

C Identical DNA

D Same chromosome number

Understand It with Pulse | Flag a mistake

8 **An organism niche is its**

A Address

B Role in its ecosystem

C Population size

D Food source only

Understand It with Pulse | Flag a mistake

9 **The large organelle that stores water in a plant cell is the**

A Golgi apparatus

B Lysosome

C Mitochondrion

D Central vacuole

Understand It with Pulse | Flag a mistake

10 **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

11 **Two species with very similar DNA sequences most likely share a**

A Common diet

B Common habitat only

C Common predator

D Recent common ancestor

Understand It with Pulse | Flag a mistake

12 **In a food chain energy flows from**

A Consumers to producers

B Producers to consumers

C Decomposers to producers

D Predators to prey

Understand It with Pulse | Flag a mistake

13 **Diffusion is the movement of particles from an area of high concentration to an area of**

A Low concentration

B High pressure

C Low temperature

D High energy

Understand It with Pulse | Flag a mistake

14 **An organism phenotype is its**

A DNA sequence

B Allele pair

C Chromosome count

D Observable traits

Understand It with Pulse | Flag a mistake

15 **The founder effect occurs when a small group starts a new population and the new population has**

A More genetic diversity than the original

B Reduced genetic diversity

C No mutations

D Identical alleles to all species

Understand It with Pulse | Flag a mistake

16 **Competition occurs when two organisms need the same**

A Predator

B Limited resource

C Offspring

D Climate

Understand It with Pulse | Flag a mistake

17 **An enzyme speeds up a chemical reaction in a cell by**

A Raising the temperature of the whole cell

B Being used up in the reaction

C Lowering the activation energy needed

D Adding energy to the products

Understand It with Pulse | Flag a mistake

18 **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

19 **Antibiotic resistance in bacteria spreads mainly because resistant bacteria**

A Choose to mutate

B Survive treatment and reproduce

C Learn to resist

D Stop dividing

Understand It with Pulse | Flag a mistake

20 **Carrying capacity is the largest population an environment can support over a**

A Day

B Week

C Long period

D Single season

Understand It with Pulse | Flag a mistake

21 **In a DNA molecule the base adenine always pairs with**

A Guanine

B Cytosine

C Thymine

D Uracil

Understand It with Pulse | Flag a mistake

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

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Lamarck idea that traits acquired during a lifetime are inherited is not supported because**

- A Acquired traits do not change DNA in gametes
- B Organisms never change
- C Environments never change
- D Mutations never occur

Understand It with Pulse | Flag a mistake

24 **Pioneer species such as lichens are important in primary succession because they help**

- A Form soil
- B Remove sunlight
- C Eat trees
- D Stop rain

Understand It with Pulse | Flag a mistake

25 **The process in which a DNA sequence is copied into messenger RNA is called**

A Translation

B Replication

C Mutation

D Transcription

Understand It with Pulse | Flag a mistake

26 **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

27 **Artificial selection differs from natural selection because humans choose which organisms**

A Mutate

B Reproduce

C Migrate

D Become extinct

Understand It with Pulse | Flag a mistake

28 **Nitrogen fixing bacteria convert nitrogen gas from the air into forms that plants can**

A Breathe

B Use

C Ignore

D Store as gas

Understand It with Pulse | Flag a mistake

29 **The shape of a DNA molecule is best described as a**

A Single strand

B Triple helix

C Flat sheet

D Double helix

Understand It with Pulse | Flag a mistake

30 **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

31 **Reproductive isolation means populations cannot**

- A Share food
- B Interbreed successfully
- C Share a habitat
- D Migrate

Understand It with Pulse | Flag a mistake

32 **A food web differs from a food chain because a food web shows**

- A Many feeding relationships
- B One straight path
- C Only producers
- D Only predators

Understand It with Pulse | Flag a mistake

33 **The structure that controls which substances enter and leave a cell is the**

A Vacuole

B Nucleus

C Cell membrane

D Cytoskeleton

Understand It with Pulse | Flag a mistake

34 **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

35 **Punctuated equilibrium describes long periods of stability interrupted by**

A Rapid change

B No fossils

C No variation

D Cloning

Understand It with Pulse | Flag a mistake

36 **An omnivore eats**

A Plants only

B Animals only

C Dead matter only

D Both plants and animals

Understand It with Pulse | Flag a mistake

37 **Endocytosis is a process by which a cell**

A Takes in material by folding its membrane inward

B Releases material in vesicles

C Divides its nucleus in two

D Makes ATP from glucose

Understand It with Pulse | Flag a mistake

38 **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

39 **The classification system groups organisms from broadest to most specific starting with**

A Species

B Genus

C Domain

D Family

Understand It with Pulse | Flag a mistake

40 **Cape Cod in Massachusetts is best characterized as a**

A Coastal region

B Hot dry desert

C Frozen tundra

D Tropical rainforest

Understand It with Pulse | Flag a mistake

41 **Joining small molecules into a larger molecule by removing water is called**

A Hydrolysis

B Diffusion

C Osmosis

D Dehydration synthesis

Understand It with Pulse | Flag a mistake

42 **If a homozygous dominant parent is crossed with a homozygous recessive parent all offspring will be**

A Homozygous dominant

B Homozygous recessive

C Heterozygous

D Half dominant half recessive

Understand It with Pulse | Flag a mistake

43 **A population in Hardy Weinberg equilibrium shows no**

A Reproduction

B Mutation

C Evolution

D Variation

Understand It with Pulse | Flag a mistake

44 **Biodiversity helps an ecosystem because diverse ecosystems are generally more**

A Stable

B Fragile

C Hot

D Dry

Understand It with Pulse | Flag a mistake

45 **In a eukaryotic cell transcription takes place in the**

A Ribosome

B Lysosome

C Nucleus

D Golgi apparatus

Understand It with Pulse | Flag a mistake

46 **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

47 **After one half life what percent of a radioactive sample remains**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **If producers contain 5000 kilocalories about how many kilocalories reach secondary consumers after two transfers at 10 percent each**

ANSWER _____

Understand It with Pulse | Flag a mistake

49 **A DNA sample is 30 percent adenine Because adenine pairs with thymine what percent is thymine**

ANSWER _____

Understand It with Pulse | Flag a mistake

50 **A cross between two heterozygous parents gives 400 offspring About how many are expected to be homozygous recessive**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. A
3. B
4. B
5. A
6. A
7. B
8. B
9. D
10. 50
11. D
12. B
13. A
14. D
15. B
16. B
17. C
18. A
19. B
20. C
21. C
22. 21
23. A
24. A
25. D
26. D
27. B
28. B
29. D
30. C
31. B
32. A
33. C
34. C
35. A
36. D
37. A
38. D
39. C
40. A
41. D
42. C
43. C
44. A
45. C
46. C
47. 50
48. 50
49. 30
50. 100

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