ONTARIO BIOLOGY, GRADE 11, UNIVERSITY PREPARATION (SBI3U) · 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 **A keystone species is one that**

- A is the most numerous species
- B is always a top predator
- C cannot be removed without no effect
- D has a disproportionately large effect on its ecosystem relative to its abundance

Understand It with Pulse | Flag a mistake

2 **Which statement best describes fitness in evolutionary biology?**

A Physical strength only

B Lifespan only

C Speed only

D The number of offspring an organism contributes to the next generation

Understand It with Pulse | Flag a mistake

3 **In a dihybrid cross, about 9 out of 16 offspring show both dominant traits. Out of 160 offspring, about how many show both dominant traits?**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **Mechanical digestion in humans begins in the**

A mouth

B stomach

C small intestine

D large intestine

Understand It with Pulse | Flag a mistake

5 **A scientist discovers an organism with a nucleus, chloroplasts, and a cell wall. It is most likely a**

A bacterium

B animal cell

C plant cell

D fungus

Understand It with Pulse | Flag a mistake

6 **Homologous structures, such as the forelimbs of whales, bats, and humans, suggest**

A identical environments

B convergent evolution only

C a common ancestor

D no evolutionary relationship

Understand It with Pulse | Flag a mistake

7 **A mutation is**

A always harmful

B a change in phenotype only

C caused only by radiation

D a change in the DNA sequence

Understand It with Pulse | Flag a mistake

8

Bile, produced by the liver, helps digest

A fats

B proteins

C starches

D vitamins only

Understand It with Pulse | Flag a mistake

9

A lichen is best described as

A a symbiotic association of a fungus and a photosynthetic partner

B a single organism

C a type of bacterium only

D a plant with flowers

Understand It with Pulse | Flag a mistake

10 **Genetic drift is best described as**

A selection for the best adapted trait

B random change in allele frequencies, especially in small populations

C mutation caused by the environment

D migration of the fittest individuals

Understand It with Pulse | Flag a mistake

11 **An allele is**

A a different form of a gene

B a chromosome pair

C a type of cell

D a protein only

Understand It with Pulse | Flag a mistake

12 **Oxygenated blood returns to the heart through the**

A vena cava

B pulmonary artery

C aorta only

D pulmonary veins

Understand It with Pulse | Flag a mistake

13 **An organism is described as a frog, an animal that begins life in water and later lives on land. Which kingdom does it belong to?**

A Animalia

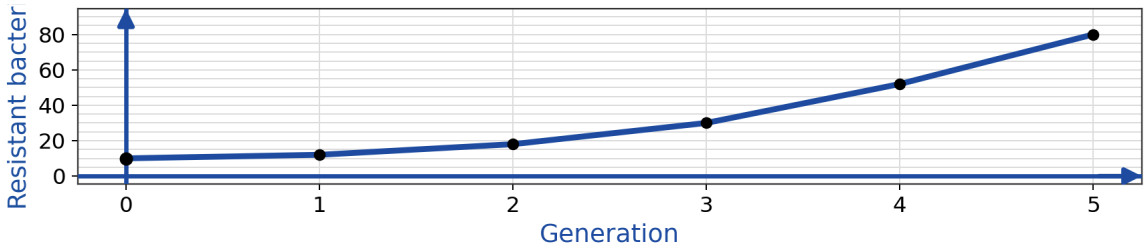
B Plantae

C Fungi

D Bacteria

Understand It with Pulse | Flag a mistake

14 **The graph shows the number of antibiotic resistant bacteria over five generations. How many resistant bacteria are present at generation 4?**



ANSWER

Understand It with Pulse | Flag a mistake

15 **DNA replication produces**

A one new molecule and one old molecule destroyed

B two molecules, each with one old strand and one new strand

C two entirely new molecules

D four identical molecules

Understand It with Pulse | Flag a mistake

16 **Alveoli are well adapted for gas exchange because they have**

A thin walls, a large surface area, and a rich blood supply

B thick walls and small surface area

C no blood supply

D a muscular wall

Understand It with Pulse | Flag a mistake

17 **An organism is described as a pine tree, a cone bearing plant with needle like leaves. Which kingdom does it belong to?**

A Animalia

B Plantae

C Fungi

D Bacteria

Understand It with Pulse | Flag a mistake

18 **Which evidence for evolution comes from comparing DNA sequences?**

A Fossil layers

B Vestigial structures

C Molecular homology

D Biogeography alone

Understand It with Pulse | Flag a mistake

19 **Genetic engineering differs from selective breeding because genetic engineering**

A takes many generations

B directly changes DNA in a laboratory

C cannot produce new traits

D only works in plants

Understand It with Pulse | Flag a mistake

20 **In plants, water is transported upward mainly through the**

- A phloem
- B xylem
- C stomata
- D root hairs only

Understand It with Pulse | Flag a mistake

21 **Arthropods are distinguished by**

- A a soft body with no segments
- B a shell and a muscular foot only
- C radial symmetry only
- D an exoskeleton and jointed appendages

Understand It with Pulse | Flag a mistake

22 **Darwin and Wallace proposed that evolution occurs mainly by**

A inheritance of acquired traits

B natural selection

C sudden creation of new species

D genetic drift alone

Understand It with Pulse | Flag a mistake

23 **In DNA, adenine always pairs with**

A cytosine

B guanine

C thymine

D uracil

Understand It with Pulse | Flag a mistake

24 **Stomata open and close mainly because guard cells**

A change shape as they gain or lose water

B are pulled by roots

C produce chlorophyll

D divide rapidly

Understand It with Pulse | Flag a mistake

25 **Gymnosperms such as pine trees reproduce using**

A seeds in cones

B flowers and fruit

C spores only

D fragmentation only

Understand It with Pulse | Flag a mistake

26 **In a population of 1000 individuals, 40 percent show a recessive trait pattern counted in a survey. How many individuals show that pattern?**

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **Two heterozygous pea plants are crossed. About three quarters of the offspring show the dominant trait. Out of 40 offspring, about how many show the dominant trait?**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **Cellular respiration in animals releases energy from glucose and produces**

A oxygen and glucose

B only oxygen

C only carbon dioxide

D carbon dioxide and water

Understand It with Pulse | Flag a mistake

29 **A survey records 200 species in a forest plot. Of these, 150 are native species. How many species are non native?**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **Which condition is required for natural selection to occur?**

A Heritable variation and differential reproductive success

B No variation in the population

C Identical environments forever

D No predators or disease

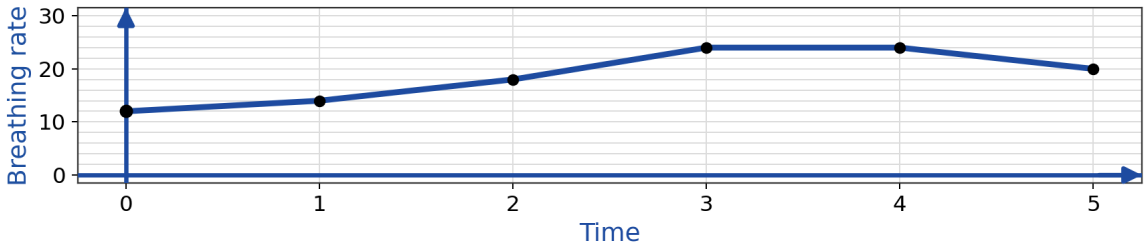
Understand It with Pulse | Flag a mistake

31 **An organism has a diploid chromosome number of 48. How many chromosomes are in one of its gametes?**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **The graph shows breathing rate during exercise and recovery. What is the breathing rate at time 3?**



ANSWER

Understand It with Pulse | Flag a mistake

33 **Mosses differ from ferns because mosses**

A have flowers

B produce seeds

C have cones

D lack true vascular tissue

Understand It with Pulse | Flag a mistake

34 **The peppered moth example shows selection changing because**

- **A** moths chose to change colour
- **B** moths migrated
- **C** pollution changed tree bark colour, changing which moths were camouflaged
- **D** birds stopped eating moths

Understand It with Pulse | Flag a mistake

35 **The genotype of a heterozygous organism for one gene is written as**

- **A** AA
- **B** aa
- **C** Aa
- **D** A

Understand It with Pulse | Flag a mistake

36 **The kidney helps maintain homeostasis by**

A filtering blood and regulating water and salt balance

B producing insulin

C pumping blood

D digesting protein

Understand It with Pulse | Flag a mistake

37 **A survey records 240 species in a forest plot. Of these, 180 are native species. How many species are non native?**

ANSWER _____

Understand It with Pulse | Flag a mistake

38 **One condition for Hardy Weinberg equilibrium is**

A strong selection

B no mutation

C small population size

D frequent migration

Understand It with Pulse | Flag a mistake

39 **Two heterozygous pea plants are crossed. About three quarters of the offspring show the dominant trait. Out of 80 offspring, about how many show the dominant trait?**

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **A plant wilts when it loses water faster than it absorbs water because its cells lose**

A chlorophyll

B sugar

C oxygen

D turgor pressure

Understand It with Pulse | Flag a mistake

41 **Which factor best explains why two organisms in the same genus are more closely related than two organisms in the same kingdom?**

A They live in the same place

B They share a more recent common ancestor

C They are the same size

D They eat the same food

Understand It with Pulse | Flag a mistake

42 **Directional selection favours**

- A one extreme phenotype over others
- B intermediate phenotypes
- C all phenotypes equally
- D no phenotype

Understand It with Pulse | Flag a mistake

43 **Which technology uses a specific DNA sequence to identify an individual?**

- A Cloning only
- B Selective breeding
- C DNA fingerprinting
- D Natural selection

Understand It with Pulse | Flag a mistake

44 **Skeletal muscle is attached to bone by**

A ligaments

B cartilage only

C nerves

D tendons

Understand It with Pulse | Flag a mistake

45 **Which human activity most directly reduces biodiversity by destroying habitat?**

A Recycling paper

B Clearing a forest to build a road

C Planting a garden

D Using public transit

Understand It with Pulse | Flag a mistake

46 **The fossil Archaeopteryx is important because it shows features of both**

A fish and amphibians

B mammals and fish

C plants and animals

D reptiles and birds

Understand It with Pulse | Flag a mistake

47 **Two heterozygous pea plants are crossed. About one quarter of the offspring show the recessive trait. Out of 160 offspring, about how many show the recessive trait?**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **Plant roots growing downward in response to gravity show**

A phototropism

B thigmotropism

C gravitropism

D photoperiodism

Understand It with Pulse | Flag a mistake

49 **Which pair correctly uses binomial nomenclature for humans?**

A Homo Sapiens

B homo sapiens

C Homo sapiens

D HOMO SAPIENS

Understand It with Pulse | Flag a mistake

50 **Which process can lead to reproductive isolation without geographic separation?**

A Gene flow

B Stabilizing selection

C Polyploidy in plants, which can create a new species in one generation

D Artificial selection only

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. D
3. 90
4. A
5. C
6. C
7. D
8. A
9. A
10. B
11. A
12. D
13. A
14. 52
15. B
16. A
17. B
18. C
19. B
20. B
21. D
22. B
23. C
24. A
25. A
26. 400
27. 30
28. D
29. 50
30. A
31. 24
32. 24
33. D
34. C
35. C
36. A
37. 60
38. B
39. 60
40. D
41. B
42. A
43. C
44. D
45. B
46. D
47. 40
48. C
49. C
50. C

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