QUEBEC ENVIRONMENTAL SCIENCE AND TECHNOLOGY, SECONDARY IV · 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 river sample contains 90 milligrams of solute in 6 kilograms of water. Its concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A meadow fixes 900 tonnes of carbon in a year and releases 720 tonnes. Its net carbon storage, in tonnes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A forest absorbs 750 tonnes of carbon in a year and releases 660 tonnes. Its net carbon uptake, in tonnes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A pump part has a nominal length of 90 millimetres and a dimensional tolerance of 4 millimetres. Its lower limit, in millimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **An endothermic reaction absorbs energy, while an exothermic reaction**

A absorbs matter

B releases matter

C absorbs light only

D releases energy

Understand It with Pulse | Flag a mistake

6 **A gene is a segment of DNA that carries instructions for a**

A rock type

B soil type

C character trait

D wind speed

Understand It with Pulse | Flag a mistake

7 **A catchment area is a territory bounded by crest lines into which flow**

A wind only

B clouds only

C ground and surface water

D lava only

Understand It with Pulse | Flag a mistake

8 **A condenser in a circuit is a component that can**

A store water

B store heat

C store light

D store electric charge

Understand It with Pulse | Flag a mistake

9 **Isotopes have the same atomic number but different**

A numbers of protons

B chemical properties

C positions in the table

D numbers of neutrons

Understand It with Pulse | Flag a mistake

10 **An ecological footprint measures the productive land needed to support a standard of living and to**

A grow its food only

B build its homes only

C power its cars only

D absorb its waste

Understand It with Pulse | Flag a mistake

11 **Atmospheric nitrogen can be assimilated by plants only with the help of certain**

A bacteria

B fungi only

C algae only

D insects only

Understand It with Pulse | Flag a mistake

12 **A pushbutton and a toggle are examples of typical**

A power supplies

B control functions

C materials

D measurements

Understand It with Pulse | Flag a mistake

13 **Balancing a chemical equation makes the number of atoms of each element**

A greater on the left

B greater on the right

C equal to zero

D equal on both sides

Understand It with Pulse | Flag a mistake

14 **Bioconcentration is the rise in concentration of a substance**

- A in a rock over time
- B in air over time
- C inside an organism over time
- D in soil over time

Understand It with Pulse | Flag a mistake

15 **In a terrestrial biome the animals present depend mainly on the**

- A plants there
- B rocks there
- C clouds there
- D wind there

Understand It with Pulse | Flag a mistake

16 **Characteristics of linking describe how mechanical parts are**

A coloured together

B heated together

C joined together

D weighed together

Understand It with Pulse | Flag a mistake

17 **Oxidation is a chemical change involving the**

A gain of protons

B loss of neutrons

C gain of mass only

D loss of electrons or gain of oxygen

Understand It with Pulse | Flag a mistake

18 **Contaminants in ecotoxicology include substances that**

A feed living organisms

B harm living organisms

C cool living organisms

D dry living organisms

Understand It with Pulse | Flag a mistake

19 **A catchment has an area of 400 m² and receives 3 metres of rain. The volume received, in m³, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A caliper shows a main scale reading of 25 millimetres and a vernier reading of 8 tenths of a millimetre. The total reading, in tenths of a millimetre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **Kirchhoff laws help determine current and voltage at points in a**

A magnet

B lens

C circuit

D mirror

Understand It with Pulse | Flag a mistake

22 **Genotype describes the alleles an organism carries, while phenotype describes its**

A observable traits

B age

C mass

D location

Understand It with Pulse | Flag a mistake

23 **A tidal station records 2 high tides each day. The number of high tides in 21 days is**

ANSWER

Understand It with Pulse | Flag a mistake

24 **A treatment plant receives wastewater at 250 milligrams per litre of pollutant and discharges at 50 milligrams per litre. The percent removed is**

ANSWER

Understand It with Pulse | Flag a mistake

25 **A solution contains 12 moles of solute in 6 litres of solution. Its concentration, in moles per litre, is**

ANSWER

Understand It with Pulse | Flag a mistake

26 **A meadow fixes 700 tonnes of carbon in a year and releases 550 tonnes. Its net carbon storage, in tonnes, is**

ANSWER

Understand It with Pulse | Flag a mistake

27 **A forest absorbs 650 tonnes of carbon in a year and releases 580 tonnes. Its net carbon uptake, in tonnes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **A pump part has a nominal length of 55 millimetres and a dimensional tolerance of 5 millimetres. Its lower limit, in millimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

29 **A river sample contains 180 milligrams of solute in 9 kilograms of water. Its concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **A meadow fixes 1000 tonnes of carbon in a year and releases 800 tonnes. Its net carbon storage, in tonnes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **A catchment has an area of 600 m² and receives 2 metres of rain. The volume received, in m³, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **A treatment plant receives wastewater at 320 milligrams per litre of pollutant and discharges at 64 milligrams per litre. The percent removed is**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **A device operates at 6 volts and 4 amperes for 25 seconds. The electrical energy used, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A field study counts 420 plants in an area of 70 m². The population density, in plants per m², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **A tidal station records 2 high tides each day. The number of high tides in 30 days is**

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **Heat treatments such as quenching and tempering improve the mechanical properties of**

A glass

B steel

C wood

D paper

Understand It with Pulse | Flag a mistake

37 **Lewis notation represents an atom by its symbol and its**

A protons

B valence electrons

C neutrons

D mass number

Understand It with Pulse | Flag a mistake

38 **In one season a population gains 200 births and loses 130 deaths, with no migration. Its net change in individuals is**

ANSWER _____

Understand It with Pulse | Flag a mistake

39 **Phosphorus enters biological systems mainly through natural erosion of**

A clouds

B rocks

C glaciers

D volcanoes

Understand It with Pulse | Flag a mistake

40 **Phytoremediation uses plants to depollute soils, purify wastewater or clean**

A water in a cloud

B soil in a volcano

C air in a building

D air in space

Understand It with Pulse | Flag a mistake

41 **Nuclear fission splits a heavy nucleus, while nuclear fusion**

A joins light nuclei

B splits a light nucleus

C creates electrons

D destroys protons

Understand It with Pulse | Flag a mistake

42 **A community is made up of the different populations living in the same**

A territory

B laboratory

C ocean only

D forest only

Understand It with Pulse | Flag a mistake

43 **Thawing glaciers and ice floes contribute to a rise in**

- A air pressure
- B sea level
- C soil depth
- D wind speed

Understand It with Pulse | Flag a mistake

44 **A plastic bowl softens when heated and can be remoulded, but a plastic electrical plug stays rigid when heated. The plug is made of**

- A a thermoplastic
- B a thermosetting plastic
- C glass
- D metal

Understand It with Pulse | Flag a mistake

45 **Photosynthesis and respiration are related chemical changes because one stores energy and the other**

A releases energy

B creates matter

C destroys matter

D cools the Sun

Understand It with Pulse | Flag a mistake

46 **Primary productivity is the production of biomass by**

A autotrophic organisms

B decomposers only

C herbivores only

D carnivores only

Understand It with Pulse | Flag a mistake

47 **The gravitational pull of the Moon on large water surfaces is largely responsible for**

A winds

B rain

C tides

D snow

Understand It with Pulse | Flag a mistake

48 **Soil treatment degrades 80 percent of 2500 kilograms of pollutant. The mass remaining, in kilograms, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

49 **Use the specific heat capacity of water as 4.19 joules per gram per degree Celsius. A sample of 100 grams of water warms by 15 degrees Celsius. The heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

50 **In one season a population gains 180 births and loses 100 deaths, with no migration. Its net change in individuals is**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 15
2. 180
3. 90
4. 86
5. D
6. C
7. C
8. D
9. D
10. D
11. A
12. B
13. D
14. C
15. A
16. C
17. D
18. B
19. 1200
20. 258
21. C
22. A
23. 42
24. 80
25. 2
26. 150
27. 70
28. 50
29. 20
30. 200
31. 1200
32. 80
33. 600
34. 6
35. 60
36. B
37. B
38. 70
39. B
40. C
41. A
42. A
43. B
44. B
45. A
46. A
47. C
48. 500
49. 6285
50. 80

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