

ST/STE Pretest 3.3 v 2014

Multiple Choice: Circle one letter (corresponding to the right answer) only for each question.

1. Which of the following is important evidence for climate change?
 - (A) CO₂'s behaviour towards visible light and infrared
 - (B) The amount of CO₂ found in ice cores from thousands of years ago.
 - (C) The ratio of H₂/H₁ found in ice cores from thousands of years ago.
 - (D) All of the above

2. Which of the following does **not** cause climate change?
 - (A) Burning of natural gas
 - (B) hydroelectricity
 - (C) Combustion of coal
 - (D) Gasoline-powered vehicles

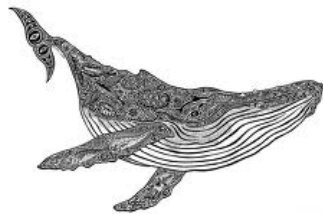
3. Which environmental problem leads to dead trees, especially if they're at high altitudes?
 - (A) Global warming
 - (B) Acid rain
 - (C) Soil contaminants like mercury
 - (D) Ozone depletion



4. What contributes SO₂ which eventually becomes part of acid rain?
 - (A) Combustion of C-containing fuels
 - (B) Roasting metal ores and burning S-containing fuels
 - (C) High temperatures in engines
 - (D) Use of refrigerants and sprays

5. Where on Earth is the largest depletion of ozone?
 - (A) Antarctica
 - (B) Arctic Circle
 - (C) Greenland
 - (D) Himalayas

6. What organisms in the ocean are producers?
 - (A) crabs
 - (B) corals
 - (C) algae
 - (D) whales



7. Which of the following least affects primary productivity in the forest?
- (A) The number of birds in the trees
 - (B) The amount of sunlight reaching the plants
 - (C) The amount of moisture received by the roots.
 - (D) The amount of ammonium and phosphates in the soil.
8. Which of the following is an omnivore?
- (A) sea gull
 - (B) cat
 - (C) horse
 - (D) sunflower
9. Which of the following statements concerning energy in an ecosystem is FALSE?
- (A) Heat loss affects the energy efficiency
 - (B) Energy in an ecosystem is recycled like P, N and C
 - (C) Energy transfer occurs from sun to plants
 - (D) Energy transfer occurs whenever a primary consumer eats.

10. The porosity of rock will influence how fast water from a watershed is delivered to a river or bay. The factor being described here is _____
- (A) Climate
 - (B) Geology
 - (C) Topography
 - (D) Vegetation

11. The Ottawa river which flows through our nation's capital is part of what major watershed? _____
- (A) Hudson Bay
 - (B) Lake Champlain
 - (C) St. Lawrence River
 - (D) Ungava Bay



12. An ice floe (small) is to sea ice what a glacier is to an _____.
- (A) Iceberg
 - (B) Ice cube
 - (C) Ice cap
 - (D) Ice cream



13. What name is given to permanently frozen ground?
- (A) Permafrost
(B) Ice cap
(C) Snow
(D) Tundra
14. What greenhouse gas is released by decomposers when permanently frozen ground begins to thaw?
- (A) Carbon dioxide
(B) Nitrous oxide
(C) Water
(D) Methane
15. What organism converts waste into phosphates?
16. What two P-containing polyatomics are absorbed directly by plants?
17. a) What comes first? Eutrophication? or Runoff?
- b) In which two cycles, does eutrophication occur because of excess nutrients in lakes?
- c) Aside from shallow lakes, excess algae, oxygen depletion and dead fish, what else can eutrophication lead to?
18. a) When ice floats, what two forces are balancing each other out?
- b) If the ice is moved to sea water of a greater density, what will happen to the amount of ice sticking out of the water? (More? Less? The same?) _____
- c) Will a full glass holding an ice cube overflow with water after the ice melts? _____
- d) If water- ice sinks in alcohol, will the volume of the alcoholic drink shrink after the completely submerged ice melts?



19. Which second period element has a valence of 4?
- (A) B

- (B) Ba
- (C) C
- (D) N

20. If the concentration of a solution is 10 g/L and it contains 0.20 g of solute, what is the solution's volume?

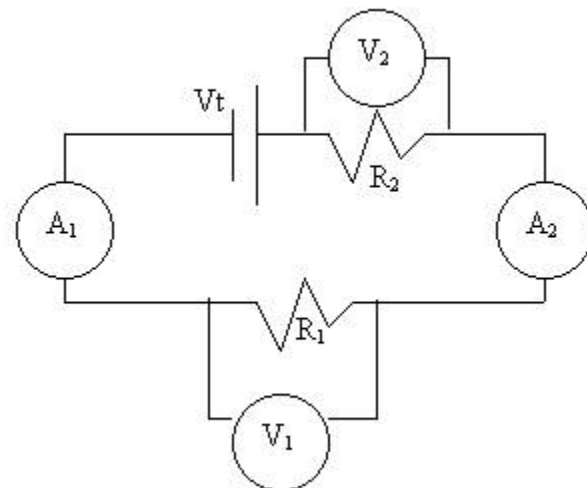
- (A) 50 L
- (B) 2.0 L
- (C) 0.020 ml
- (D) 20 ml

21. What family of elements quickly reacts with metals?

- (A) Alkali
- (B) Alkaline earth
- (C) Halogens
- (D) Noble gases

22. Which of the following statements concerning the diagram is TRUE?

- (A) Only V_1 is correctly attached.
- (B) This is a parallel circuit.
- (C) $V_1 = V_2$, regardless of R_1 and R_2
- (D) $A_1 = A_2$, regardless of R_1 and R_2



23. If the efficiency of the circuit shown is not 100%, then some electrical energy is converted into _____

- (A) A chemical compound
- (B) Another resistor
- (C) Heat
- (D) Sound

24. A microscopic part of a magnet that still has dipoles is known as a _____

- (A) domain
- (B) lodestone
- (C) magnetic field
- (D) electrical field

25. What current flows through R_4 ?

Name _____

