

Markhor Junior Contest ®

Pioneer Level (Class VII & VIII) Science 2020

There are 25 questions, and each question carries two marks.

1. Which feature best distinguishes science from pseudoscience?
 - a) Both rely on beliefs.
 - b) Science uses evidence and testable experiments.**
 - c) Pseudoscience always proves theories correct.
 - d) Science never changes with new discoveries.
2. Which of the following is an example of engineering in STEM?
 - a) Studying the laws of gravity
 - b) Calculating speed using a formula
 - c) Designing a bridge to withstand heavy loads**
 - d) Measuring the growth of plants
3. Anton van Leeuwenhoek is famous for:
 - a) Developing vaccines
 - b) Observing microorganisms (“animalcules”) under a simple microscope**
 - c) Discovering penicillin
 - d) Explaining electricity
4. Which of the following is the correct equation for photosynthesis?
 - a) $O_2 + \text{Glucose} \rightarrow CO_2 + H_2O + \text{Energy}$
 - b) $CO_2 + H_2O \rightarrow \text{Glucose} + O_2$ (in the presence of light)**
 - c) $\text{Glucose} + O_2 \rightarrow CO_2 + H_2O + \text{Energy}$
 - d) $\text{Light} + O_2 \rightarrow \text{Glucose} + CO_2$
5. In human body cells, how many chromosomes are normally present?
 - a) 23
 - b) 46**
 - c) 92
 - d) 64
6. If tall (T) is dominant and short (t) is recessive, what is the phenotype of Tt?
 - a) Short
 - b) Tall**
 - c) Medium
 - d) None
7. Which of the following is an example of genetic engineering?
 - a) Crossing tall and short pea plants
 - b) Allowing natural mutations
 - c) Inserting a human insulin gene into bacteria**
 - d) Using fertilizer on crops

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8. Which microorganisms cause diseases like measles, influenza, and COVID-19?

- a) Bacteria
- b) Fungi
- c) **Viruses**
- d) Protozoa

9. Which of these is NOT a method of personal hygiene?

- a) Regular bathing
- b) Brushing teeth
- c) **Sharing used towels**
- d) Washing hands

10. Which of these is a producer in an ecosystem?

- a) Lion
- b) Deer
- c) **Grass**
- d) Eagle



11. The hole in the ozone layer is mainly caused by:

- a) Carbon monoxide
- b) Dust particles
- c) **Chlorofluorocarbons (CFCs)**
- d) Methane

12. Which of these gases has a stronger heat-trapping effect than CO₂, even though it is less abundant?

- a) Oxygen
- b) Nitrogen
- c) **Methane**
- d) Argon

13. Which of these is an example of a renewable resource?

- a) Natural gas
- b) Petroleum
- c) **Solar energy**
- d) Nuclear fuel

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14. Which of the following is an example of green energy?

- a) Coal power
- b) Diesel power
- c) Wind power**
- d) Nuclear bombs

15. Which subatomic particle has no charge?

- a) Proton
- b) Neutron**
- c) Electron
- d) Positron

16. Elements in the same group have:

- a) The same number of neutrons
- b) The same number of valence electrons**
- c) The same atomic mass
- d) The same number of protons

17. Sodium chloride (NaCl) is an example of:

- a) Covalent compound
- b) Ionic compound**
- c) Metallic compound
- d) Hydrogen molecule

18. Which gas is necessary for a combustion reaction?

- a) Carbon dioxide
- b) Oxygen**
- c) Nitrogen
- d) Hydrogen

19. The pH scale ranges from:

- a) 0 to 7
- b) 0 to 10
- c) 0 to 14**
- d) 1 to 100

20. In a compound, the elements are:

- a) Mixed in any proportion
- b) Combined in a fixed proportion**
- c) Not chemically combined
- d) Easily separated

21. Newton's Second Law of Motion states:

- a) Every action has an equal and opposite reaction
- b) Force is stored in objects

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c) **Force = mass × acceleration ($F = ma$)**

d) Momentum is always constant

22. If no displacement occurs, the work done is:

a) Maximum

b) Negative

c) **Zero**

d) Infinite

23. Which of the following is a transverse wave?

a) Sound wave in air

b) **Light wave**

c) Compression in a spring

d) Seismic P-waves

24. The angle of incidence is equal to the angle of reflection in:

a) Refraction

b) Diffusion

c) **Reflection**

d) Absorption