

Markhor Junior Contest ®

Pioneer Level (Class VII & VIII) Science 2019

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

1. **Astrology is considered pseudoscience because:**
 - a) It studies stars and planets.
 - b) People believe in horoscopes.
 - c) **Its claims cannot be tested or falsified scientifically.**
 - d) It uses telescopes and charts.
2. **A company develops solar panels. Which part of STEM ensures that they are affordable and efficient?**
 - a) Science
 - b) Engineering
 - c) Technology
 - d) **Mathematics**
3. **Which scientist is known as the “father of electricity” for his work with lightning and charges?**
 - a) Michael Faraday
 - b) Thomas Edison
 - c) **Benjamin Franklin**
 - d) Nikola Tesla
4. **What pigment in plants is responsible for absorbing light energy?**
 - a) Xanthophyll
 - b) **Chlorophyll**
 - c) Carotene
 - d) Melanin
5. **Which scientist is the Father of Genetics?**
 - a) Darwin
 - b) **Mendel**
 - c) Hooke
 - d) Franklin
6. **Which field involves direct manipulation of an organism’s DNA?**
 - a) Ecology
 - b) Evolution
 - c) **Genetic engineering**
 - d) Botany

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7. **Malaria is caused by a parasite carried by:**
- a) Rat
 - b) Flea
 - c) Female Anopheles mosquito**
 - d) Housefly
8. **Vaccination works by:**
- a) Directly killing all germs in the body
 - b) Training the immune system to recognize and fight pathogens**
 - c) Reducing blood pressure
 - d) Increasing appetite
9. **An ecosystem includes:**
- a) Only plants and animals
 - b) Only living organisms
 - c) Both living and non-living components**
 - d) Only non-living factors
10. **Which of these is a non-biodegradable pollutant?**
- a) Paper
 - b) Food waste
 - c) Plastic**
 - d) Cotton cloth
11. **The greenhouse effect keeps Earth's temperature:**
- a) Too hot for life
 - b) The same as the Moon's
 - c) Warm enough to support life**
 - d) As cold as outer space
12. **Which non-renewable resource is formed from dead plants over millions of years?**
- a) Diamonds
 - b) Iron ore
 - c) Coal**
 - d) Uranium
13. **Which energy source is both renewable and pollution-free?**
- a) Natural gas
 - b) Coal
 - c) Solar energy**
 - d) Petrol

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14. Which subatomic particle is the lightest?

- a) Proton
- b) Neutron
- c) Electron**
- d) Both proton and neutron

15. The elements in Group 1 of the periodic table are known as:

- a) Halogens
- b) Noble gases
- c) Alkali metals**
- d) Transition metals

16. In a covalent bond, the atoms are usually:

- a) Metals only
- b) Nonmetals**
- c) Metals and nonmetals
- d) Noble gases

17. A solution with pH = 7 is:

- a) Acidic
- b) Basic
- c) Neutral**
- d) Strongly acidic

18. In a mixture, the components:

- a) Lose their individual properties
- b) Retain their individual properties**
- c) Form new bonds
- d) Cannot be separated

19. Power is defined as:

- a) Force $\times$ distance
- b) Energy stored in motion
- c) Work done per unit time**
- d) Rate of acceleration

20. Which of the following is a longitudinal wave?

- a) Water surface waves
- b) Light waves
- c) Sound waves in air**
- d) Radio waves

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21. A concave lens is also called a:

- a) Converging lens
- b) Diverging lens**
- c) Magnifying lens
- d) Plane lens

22. If all herbivores in a grassland are removed, which of the following is most likely to happen first?

- a) Carnivore populations will decrease**
- b) Plant populations will decrease
- c) Decomposers will die out
- d) Omnivores will become producers

23. A student mixes an acid and a base in a beaker. Which observation indicates that a neutralization reaction has occurred?

- a) The solution produces bubbles of hydrogen
- b) The pH moves closer to 7**
- c) The solution becomes bright red
- d) The temperature drops below 0°C

24. A car is pushed with a constant force on two different days. On Day 1, the car is empty; on Day 2, it is fully loaded. Which statement is correct?

- a) Acceleration is the same both days
- b) Acceleration is less on Day 2**
- c) Acceleration is more on Day 2
- d) The car cannot move on Day 2

25. A tuning fork produces sound that travels through air and then enters water. What happens to the speed and wavelength of the sound in water compared to air?

- a) Speed increases, wavelength increases**
- b) Speed decreases, wavelength increases
- c) Speed increases, wavelength decreases
- d) Speed decreases, wavelength decreases