



MAHAVIR SENIOR MODEL SCHOOL

SUBJECT: SCIENCE

CLASS: VII

COMPETENCY BASED QUESTIONS

MULTIPLE CHOICE QUESTIONS

1. A student is testing a metal that is liquid at room temperature to use in a thermometer. Which metal is it?
 - (a) Sodium
 - (b) Potassium
 - (c) Mercury
 - (d) Magnesium
2. Why are the handles of cooking pans usually made of wood or plastic?
 - (a) To make them more malleable.
 - (b) Because wood and plastic are good conductors of heat.
 - (c) To prevent heat from transferring to the user's hand as they are poor conductors.
 - (d) To make the pans look beautiful.
3. What is the nature of the magnesium oxide?
 - (a) Acidic
 - (b) Basic
 - (c) Neutral
 - (d) Corrosive
4. Name the part of the respiratory system which is responsible for the actual exchange of oxygen and carbon dioxide with the blood.
 - (a) Windpipe
 - (b) Nasal passages
 - (c) Alveoli
 - (d) Diaphragm
5. Choose the correct word equation for respiration.
 - (a) Glucose + Carbon dioxide \rightarrow Oxygen + Water + Energy
 - (b) Glucose + Oxygen \rightarrow Carbon dioxide + Water + Energy
 - (c) Glucose + Water \rightarrow Oxygen + Carbon dioxide
 - (d) Carbon dioxide + Water \rightarrow Glucose + Oxygen



6. What is the approximate percentage of oxygen in exhaled air?
- (a) 21%
 - (b) 0.04%
 - (c) 4–5%
 - (d) 16–17%
7. Animals like cows and goats that chew partially digested food (cud) are called-
- (a) Amphibians
 - (b) Predators
 - (c) Ruminants
 - (d) Carnivores
8. The process where rock pebbles and soil are moved from one location to another by wind or flowing water is called:
- (a) Weathering
 - (b) Erosion
 - (c) Combustion
 - (d) Sedimentation
9. Which of these is a characteristic of a physical change?
- (a) A new substance with different properties is formed
 - (b) It always involves a chemical reaction
 - (c) No new substance is formed
 - (d) It is always irreversible.
10. What happens to lime water when it reacts with the gas released from a mixture of vinegar and baking soda?
- (a) It turns blue
 - (b) It turns milky
 - (c) It becomes transparent
 - (d) It starts boiling
11. A shadow is formed when light is
- (a) Reflected by a mirror
 - (b) Passed through a transparent glass
 - (c) Blocked by an opaque object
 - (d) Bent by a lens



- 12.** The minimum temperature at which a substance catches fire is called its:
- (a) Melting point
 - (b) Boiling point
 - (c) Ignition temperature
 - (d) Evaporation
- 13.** Which of the following is a chemical change?
- (a) Folding a sheet of paper
 - (b) Crushing chalk into powder
 - (c) Rusting of an iron nail
 - (d) Boiling of Water
- 14.** The primary function of the large intestine is to:
- (a) Digest proteins
 - (b) Break down fats
 - (c) Absorb remaining water and some salts
 - (d) Produce digestive juices
- 15.** The change in the direction of light by a shiny surface or a mirror is called:
- (a) Reflection
 - (b) Refraction
 - (c) Inversion
 - (d) Shadowing



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ASSERTION REASON QUESTIONS

Directions: In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is NOT the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

1. **Assertion (A):** Breathing is a physical process.

Reason (R): During breathing we intake oxygen and release carbon dioxide.

2. **Assertion (A):** Smoking is beneficial for respiratory health.

Reason (R): Smoking damages the lungs and increases the risk of lung cancer.

3. **Assertion (A):** Earthworms use their moist skin for respiration.

Reason (R): Earthworms have highly developed lungs like humans.

4. **Assertion (A):** The decomposition of food waste into compost is an undesirable change.

Reason (R): Decomposition involves conversion of organic waste into inorganic form.

5. **Assertion (A):** Most changes involving the hardening of sediments into new rocks cannot be reversed.

Reason (R): These natural processes take place over thousands of years.

6. **Assertion (A):** Drying of paint causes atmospheric pollution.

Reason (R): Drying paint releases substances into the atmosphere through the process of evaporation.

7. **Assertion (A):** Metals like copper and aluminium are used to make electrical wires.

Reason (R): Metals possess the property of ductility, allowing them to be drawn into thin wires.



- 8. Assertion (A):** Phosphorus is stored in water.
Reason (R): Phosphorus is a highly reactive non-metal that catches fire when exposed to air.
- 9. Assertion (A):** Iron objects are often coated with a layer of zinc.
Reason (R): Zinc coating prevents the iron from coming into contact with moist air, thereby preventing rusting.
- 10. Assertion (A):** Non-metals like oxygen and carbon are considered essential for the survival of living organisms.
Reason (R): Oxygen is required for respiration, and carbon is a primary building block of proteins, fats, and carbohydrates.
- 11. Assertion (A):** Metal kept in a sealed bottle with silica gel do not develop rust even after many days.
Reason (R): Silica gel absorbs moisture, and the absence of water prevents the rusting of iron.
- 12. Assertion (A):** The circulatory system is responsible for removing waste from the body.
Reason (R): The heart pumps blood, which delivers oxygen and nutrients while carrying away waste products.
- 13. Assertion (A):** The burning of a candle is both a physical and a chemical change.
Reason (R): Melting of wax is a physical change, while the burning of the wick and wax to produce heat and light is a chemical change.
- 14. Assertion (A) :** We cannot see a candle flame through a bent pipe.
Reason (R) : Light travels in a straight line.
- 15. Assertion (A):** A pinhole camera can be used to see the colors of a distant object.
Reason (R): The image formed by a pinhole camera can be seen on a screen.



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CASE BASED QUESTIONS AND DIAGRAMS

Read the passage and answer the following questions

CASE 1

Yadu conducted an experiment to understand how food is processed in the body. He took two test tubes, A and B, and added a pinch of rice flour mixed with water to both. To test tube B, he added a few drops of saliva, while test tube A was left as it is. After leaving them for 45 minutes, he added iodine solution to both tubes.

- In which test tube will the iodine solution show a color change to blue-black, and why?
- Why did Yadu have to wait for 35–45 minutes before adding the iodine solution?
- Which specific component of the rice flour is being acted upon in this experiment?

CASE 2

Two friends experimented with mirrors. First, they observed their reflection in a single plane mirror. Then, they stood in front of the mirrors and see their left side on the right and vice versa. The size of image was similar to size of their heights and size reduced with increasing distance from the mirror .

- If angle of incidence is sixty degree , give the angle of reflection.
- What is lateral inversion?
- Name the mirror used by them? Give reason for your answer.

CASE 3

During a laboratory demonstration, a teacher takes a small strip of magnesium ribbon and cleans it with sandpaper. Using a pair of tongs, the teacher holds the ribbon over the flame of a burner. The ribbon burns with a brilliant white light, and eventually, it turns into a white powdery ash. The teacher explains that this is a type of reaction called combustion.

- What is the name of the white powdery substance formed after burning the magnesium ribbon?
- Identify the type of change taking place during burning of Magnesium ribbon. Give reason.



(c) Write the word equation for this reaction.

Well labelled diagrams to be drawn for the following

1. Human Alimentary Canal
2. Periscope and Kaleidoscope

MSMS