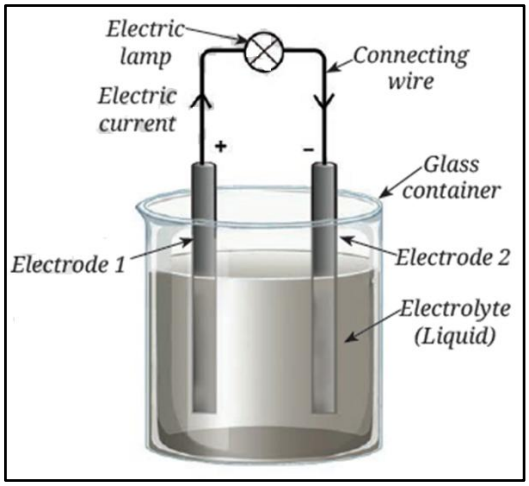
INDIAN SCHOOL AL WADI AL KABIR

CLASS: VIII	DEPARTMENT: SCIENCE	**DATE: 25/11/2025**
MARKS: 30	POST - MID TERM ***ANSWER KEY***	DURATION: 1 HOUR

SECTION - A	
1] (c) When the electric current is flowing through the coil	**1**
2] (b) More lemons increase the total voltage	**1**
3] (d) Gas particles move freely in all directions	**1**
4] (b) Sugar underwent decomposition due to heat	**1**
5] (i) Both A and R are true and R is the correct explanation of the assertion.	**1**
6] (ii) Both A and R are true, but R is not the correct explanation of the assertion.	**1**
7] (iv) A is false, but R is true	**1**
SECTION - B	
8] An electromagnet is a current-carrying coil that behaves like a magnet. Lifting electromagnets are widely used in factories and scrap yards to move, lift, and sort heavy metal items efficiently	**1 + 1**
9] A dry cell is a widely used electric cell with a thick paste as the electrolyte instead of a liquid. It has a zinc container as the negative terminal and a carbon rod at the center as the positive terminal, surrounded by the electrolyte paste.	**2**
10] i) The reaction can be represented as — Iron sulfide + Dilute Hydrochloric acid $\longrightarrow$ Iron chloride + Hydrogen sulfide **ii)** The gas produced in this reaction gives off a smell similar to rotten eggs.	**1** **1**
SECTION - C	
11] a) The strength of an electromagnet can be changed in the following ways - • Changing the current: Increasing the current in the coil increases the magnetic field, making the electromagnet stronger. • Changing the number of turns in the coil: More turns of wire in the coil produce a stronger magnetic field.	**(Any 2)** **½ + ½**

• Using a different core material: Using a highly magnetic material like soft iron as the core strengthens the electromagnet.

b) Simple representation of a Voltaic cell - **2**



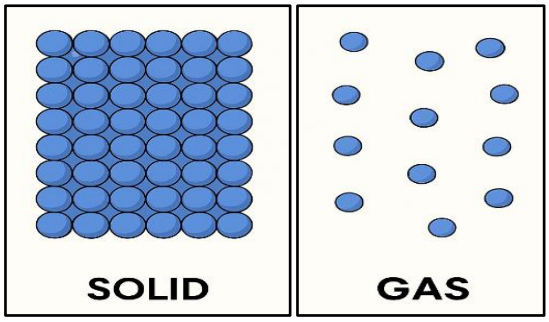
12] a) When air is compressed in a syringe, the air particles are forced closer together, which decreases the volume and increases the pressure. When the plunger is released, the compressed air expands, the particles move apart, and the air returns to its original volume and pressure. This shows that air can be compressed and also can expand. **1 + 1**

b) Potassium permanganate spreads fastest in hot water because the water particles move quickly, slower in room-temperature water, and slowest in cold water where particles move very slowly. **1**

13] a) When carbon dioxide reacts with lime water (calcium hydroxide), it forms calcium carbonate (insoluble tiny white particles) and water. **1**

b) Difference between uniform and non-uniform mixtures - **1 + 1**

UNIFORM MIXTURE	NON-UNIFORM MIXTURE
Mixtures in which the components are evenly distributed and cannot be distinguished from one another are known as uniform mixtures.	Mixtures in which the different components can be seen with the naked eye or with the help of a magnifying glass are called non-uniform mixtures.

SECTION - D	
14] a) Diffusion is the process of particles of a substance spreading out evenly throughout another substance, moving from an area of higher concentration to an area of lower concentration.	**1**
b) Your hand moves easily through air because the particles in air are far apart and there is lots of empty space between them. In a solid like wood, the particles are packed tightly together and cannot move. Because there is no space for your hand to pass through, it feels hard and you cannot push your hand through it.	**2**
(c) Diagram showing how particles are arranged in **solids** and **gases**.  	**1 + 1**
SECTION - E	
15] (a) Stainless steel is a mixture because it is made up of several metals, such as iron, chromium, nickel, and a small amount of carbon, that are physically combined. These components are uniformly mixed, and one cannot see the individual substances.	**1**
(b) We would use graphene aerogel to clean oil spills in oceans and rivers because it is extremely light and highly absorbent. Its porous structure allows it to soak up oil efficiently without harming marine life.	**1**
(c) Chemists use knowledge of elements and compounds to develop medicines and vaccines and to create fertilisers, which enhance crop production.	**1**