



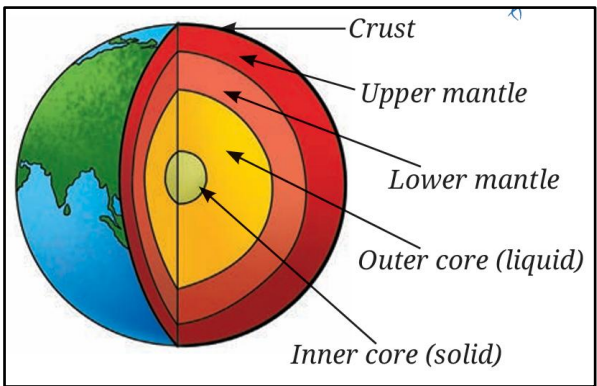
INDIAN SCHOOL AL WADI AL KABIR

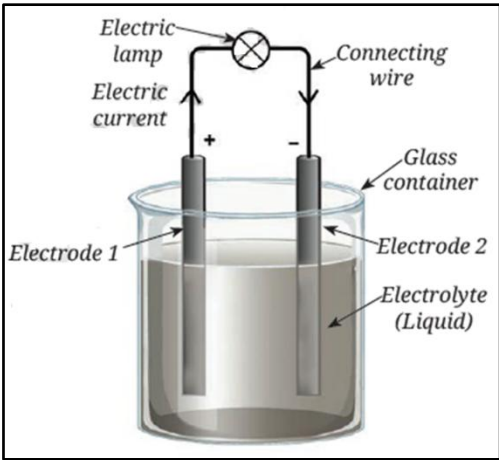


CLASS: VIII	DEPARTMENT: SCIENCE	DATE: 17/09/2026
MARKS: 80	MID-TERM ANSWER KEY [SET - 1]	DURATION: 2½ HOURS

SECTION A (1 X 20 = 20)		
1	(b) Observing and changing one factor at a time.	1
2	(b) Ignoring unexpected results.	1
3	(a) The release of carbon dioxide gas.	1
4	(d) By decomposing organic waste into simpler substances.	1
5	(d) An electrolyte.	1
6	(c) Heating effect of electric current.	1
7	(c) It will become half the original pressure.	1
8	(d) $PA = PB$, $FA < FB$	1
9	(a) The air pressure outside the sucker was greater than the pressure inside it.	1
10	(d) Gas particles have large spaces that can be compressed easily.	1
11	(a) Solids with weak interparticle attractions generally have lower melting points.	1
12	(b) Object A has a lower density than water, while Object B has a greater density.	1
13	(d) 14 mL	1
14	(b) The smaller amount is the solute, and the larger amount is the solvent.	1
15	(c) They produce more seeds.	1
16	(d) Growing different crops and using natural compost.	1
17	(C) A is true, but R is false.	1
18	(D) A is false, but R is true.	1
19	(D) A is false, but R is true.	1
20	(A) Both A and R are true, and R is the correct explanation of the assertion.	1

SECTION B (2 X 6 = 12)

21	Curiosity is considered the foundation of science because it drives us to ask questions and seek answers about the world around us. It motivates scientists to explore, experiment, and discover new ideas, leading to scientific knowledge.	2
22	The strength of an electromagnet can be changed in the following ways: • <u>Changing the current</u>: Increasing the current in the coil increases the magnetic field, making the electromagnet stronger. • <u>Changing the number of turns in the coil</u>: More turns of wire in the coil produce a stronger magnetic field. • <u>Using a different core material</u>: Using a highly magnetic material like soft iron as the core strengthens the electromagnet.	2
23	The weight (force) of the block is the same in both cases, but: When placed flat, a larger area of the block touches the mattress. So, with less pressure, it depresses the mattress less. When placed vertically, only the smaller end touches the mattress. So, with more pressure, it depresses the mattress more. Therefore, the block depresses the mattress more when placed vertically because pressure increases when the area of contact decreases.	2
24	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.	2
25	<u>Layers of the Earth:</u> 	2

26	Monoculture is the practice of growing one crop species in a field at a time. It can reduce crop diversity and affect pollinators, which are crucial for food production. Growing the same crop year after year reduces the availability of certain nutrients in the soil.	1 + 1
SECTION C (3 X 7 = 21)		
27	a) A puri puffs up due to the water in the dough turning into steam when heated. The steam gets trapped inside, making a puri swell like a balloon. b) Changing only one variable ensures that observed effects can be accurately linked to that specific change. This method helps isolate causes and avoid misleading conclusions, allowing a clearer understanding of scientific investigations.	1 2
28	a) Rechargeable batteries can be recharged and reused multiple times. This prevents wastage and saves resources. b) <u>Voltaic cell:</u> 	1 2
29	a) High-speed winds create a low-pressure area above the roof. Air pressure inside the house becomes greater than the pressure above the roof. The pressure difference pushes the roof upward, which may blow it away if it is weak. b) Force = 800N, Area = 2m² Pressure = Force/Area Pressure = 800/2 <u>Pressure = 400N/m²</u>	1 2

30	a) i) Sugar dissolves in water and occupies spaces between water molecules, so water level decreases. ii) Sand does not dissolve, so water level rises. b) Potassium permanganate spreads faster in hot water because particles move faster at higher temperatures.	1 + 1 1
31	a) Uniform mixtures are called solutions, and their components are not visible separately. In non-uniform mixtures, the components can be seen either with the naked eye or with a magnifying device b) Density = Mass / Volume = 400 g ÷ 40 cm³ = 10 g/cm³	1 2
32	a) The air inside the balloon is heated, causing it to expand and become less dense than the cooler air outside. This density difference creates lift, causing the balloon to ascend. b) i) Increasing pressure brings gas particles closer together, decreases the volume and increases the density of the gas. ii) The particles in solids are already packed very closely together, so solids are very difficult to compress. Hence, pressure causes almost no change in their density.	1 1 1
33	a) Grass → Grasshopper → Frog → Snake → Eagle b) <u>Mutualism</u>: The type of symbiotic relationship where two different species interact and both organisms benefit. For example: Honeybees and flowers- flowers get pollinated, and bees get nectar. <u>Parasitism</u>: A relationship between two species of plants or animals in which one organism benefits while the other is harmed. For example: Ticks on the body of dogs- The tick feeds on dog blood, and the dog gets skin irritation	1 2

SECTION D (5 X 3 = 15)		
34	a) Beans and peas are leguminous plants and have Rhizobium in their root nodules. These bacteria can fix atmospheric nitrogen to enrich the soil with nitrogen and increase its fertility. b) <u>Animal cell:</u> c) Paramecium – Protozoa Bread mould - Fungi	1 2 2
35	a) A If you reverse the battery terminals, the compass needle will deflect in the opposite direction. Reversing the battery terminals reverses the direction of the electric current flowing through the coil. b) The heating effect of electric current can cause problems like energy loss in wires during transmission. Overheating in appliances may cause damage to plugs and sockets, where plastic parts may melt, or even lead to fires. c) A – Carbon rod B - Zinc container	2 2 1
36	a) Liquids take the shape of the container because their particles are less tightly packed and can slide past one another. So they can flow and adjust to the container's shape. Solids do not do this because their particles are tightly packed and remain fixed in position. b) The Earth's atmosphere is held in place by its gravity. The weak attraction between gas particles is not enough to keep the air around Earth. Instead, Earth's strong gravitational force pulls gas molecules toward its surface and prevents them from escaping into space.	2 2

	c) When we wash clothes stained with oil using soap, numerous soap particles surround the oil particles on the fabric. One end of the soap particle attaches to the oil, and the other mixes with water, thus helping lift the oil off and wash it away.	1
SECTION E (4 X 3 = 12)		
37	i) Microalgae make their own food using sunlight and release oxygen during photosynthesis. They contribute more than half of Earth's oxygen supply.	1
	ii) Spirulina is called a superfood because it is rich in nutrients and is a good source of vitamin B12, which is essential for our body.	1
	iii) It is important to conserve microalgae because they help maintain the oxygen balance, support aquatic food chains, clean water, and protect the environment.	2
38	i) A lightning conductor is a device that protects buildings from the effects of lightning by providing an easy and safe path for electric charges to flow into the ground.	1
	ii) A sudden flow of charges takes place, producing a bright flash of light called lightning. It heats the surrounding air, causing it to expand and produce thunder.	1
	iii) We should stay away from tall objects, crouch in a low-lying area, minimise contact with the ground, avoid water and metallic umbrellas, and stay inside a bus or car when possible.	2
39	i) Plants release oxygen during photosynthesis, their roots hold the soil together and prevent soil erosion, and vegetation helps retain soil moisture and cool the atmosphere.	1
	ii) Forests provide fresh air, fertile soil, food, fibres, timber and medicines, while aquatic ecosystems provide water and food. Ecosystems also offer aesthetic and recreational benefits that contribute to human well-being.	1
	iii) Biotic components are the living parts of an ecosystem, such as plants, animals and microorganisms, whereas abiotic components are the non-living parts, such as air, water, soil, sunlight and temperature.	2