Indian School Al Wadi Al Kabir

Mid-term Examination (2025-2026)

Class: VIII Subject: SCIENCE Max. marks:
Date: 25/09/2025 Set- II-Marking scheme Time: 2 ½ Hours

	SECTION A	
Q NO	**VALUE POINTS**	**MARKS**
1	a) A seed drill ensures uniform depth and spacing of seeds, leading to better germination.	1
2	b) Soil will gradually lose its fertility, resulting in poor crop yield.	1
3	a) 150 cm	1
4	c) Cataract	1
5	b) Oil and gas are lighter than water and do not mix with it	1
6	b) Coal tar	1
7	b) Driving at a constant and moderate speed while ensuring correct tyre pressure and regular vehicle maintenance	1
8	b) Species found only in a particular region	1
9	c) Higher levels of carbon dioxide in the atmosphere causing global warming	1
10	b) Migration	1
11	b) Carbon dioxide	1
12	d) By decomposing waste into simpler substances	1
13	c) By helping the body make antibodies	1
14	b) Forces add up, resulting in a greater force	1
15	b) It slows down the ball and eventually stops it	1
16	c) Electrostatic force	1

17	i) Both A and R are true, and R is the correct explanation of the assertion.	1
18	iii) A is true, but R is false.	1
19	i) Both A and R are true, and R is the correct explanation of the assertion.	1
20	iv) A is false, but R is true	1
	SECTION B	
21	a) The waterfalls are exactly near the roots in this arrangement, drop by drop. As a result, it's known as a drip system. It is the most effective method for watering fruit trees, gardens, and trees since no water is wasted. It's a gift in areas where there's a shortage of water. b) Manual removal: Uprooting or cutting weeds using hands or implements like a khurpi before they produce seeds. Use of weedicides: Spraying chemical substances (such as 2,4-D) to kill weeds without harming the main crop.	1 ½ +½=1
22	a) When gram seeds are dropped into water, some seeds sink while others float. This happens because the seeds that are damaged or hollow get filled with air and become lighter, so they rise to the surface. The healthy and intact seeds are heavier and denser, so they sink in water. b) Cultivator. The use of a cultivator saves labour and time.	1 ½ +½=1
23	a) A kaleidoscope works on the principle of multiple reflection of light. Mirrors inside it reflect the images of coloured glass pieces many times to form beautiful patterns. Application: Kaleidoscopes are used by designers and artists to get ideas for new designs and patterns b) Reason: For two plane mirrors inclined at angle θ, $n = \frac{360^\circ}{\theta} - 1$ (when $\frac{360^\circ}{\theta}$ is an integer). Here, $\frac{360^\circ}{60^\circ} = 6 \Rightarrow n = 6 - 1 = 5$.	½ +½=1 1
24	Formation of Coal (Carbonisation): Around 300 million years ago, dense forests grew in low-lying wetland areas.	2

	Natural processes like floods buried these forests under layers of soil. Over time, more soil got deposited, and the buried plants were subjected to high pressure and high temperature. Slowly, the dead plants were converted into coal, a substance rich in carbon. This slow process of conversion of dead vegetation into coal is called carbonisation.	
25	a) Red Data Book: The Red Data Book is a record that contains the list of endangered species of animals and plants. It is important because it provides information on species that are at risk of extinction and helps in their protection and conservation. b) (Any two) • Procuring land for cultivation. • Building houses and factories. • Making furniture. • Using wood for fuel. • Using wood for paper making.	1 ½+½=1
26	a) Antibiotics are substances produced by certain microorganisms that can kill or stop the growth of other harmful microorganisms. Example- Penicillin, Streptomycin, Tetracycline, erythromycin. b) i) Paramecium ii) Amoeba iii) Chlamydomonas iv) Bread mould	½+½=1 ½+½=1
	SECTION C	
27	a) Freshly harvested grains contain moisture, which can cause fungal growth, rotting, or germination during storage. Properly drying the grains reduces moisture, preventing spoilage and allowing safe storage for a longer period.	1

<table>
<tr><td></td><td>b)
<table>
<tr><th>S. No.</th><th>Fertiliser</th><th>Manure</th></tr>
<tr><td>1.</td><td>Fertiliser is a man-made inorganic salt.</td><td>Manure is a natural substance obtained by the decomposition of cattle dung and plant residues.</td></tr>
<tr><td>2.</td><td>Fertiliser is prepared in factories.</td><td>Manure can be prepared in the fields.</td></tr>
<tr><td>3.</td><td>Fertiliser does not provide any humus to the soil.</td><td>Manure provides a lot of humus to the soil.</td></tr>
<tr><td>4.</td><td>Fertilisers are very rich in plant nutrients like nitrogen, phosphorus and potassium.</td><td>Manure is relatively less rich in plant nutrients.</td></tr>
</table></td><td>½ X 4 =2</td></tr>
<tr><td>28</td><td>a) Precautions while using a sprayer:

• Wear protective clothing, gloves, and masks to avoid contact with weedicides.
• Do not inhale the spray or allow it to touch the skin.
• Follow the instructions on the label carefully regarding the amount and method of spraying.
• Keep children and animals away from the field during spraying.

b) Paddy and wheat cultivation seasons:

Paddy requires a large amount of water, so it is grown in the rainy season. It is a Kharif crop.

Wheat requires cooler and drier weather for growth, so it is grown in the winter season. It is a Rabi crop.

c) Farmers grow legumes in one season and wheat in the next because legumes have Rhizobium bacteria in their root nodules, which fix nitrogen from the air into the soil, enriching it naturally. This increases soil fertility, so the next crop, like wheat, grows better and gives a higher yield.</td><td>1

½+½=1

1</td></tr>
<tr><td>29</td><td>a) Rods: Responsible for vision in dim light and detecting black and white.

Cones: Responsible for colour vision and seeing in bright light.

b) A cartoon film is made up of a series of still pictures shown in rapid succession. If the pictures change faster than 1/16th of a second (about 24 frames per second), our eyes cannot distinguish the individual images, so the brain perceives it as continuous motion. This is called the persistence of vision.</td><td>1+1=2

1</td></tr>
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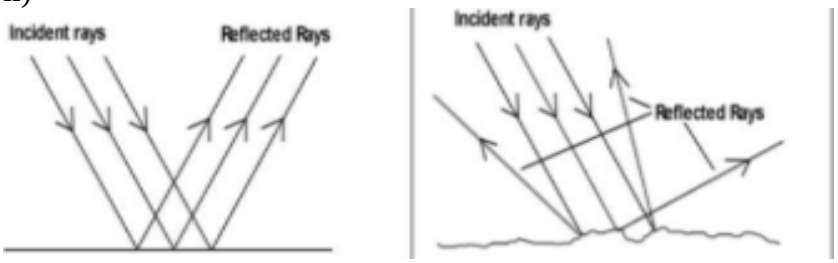
30	a. **Inexhaustible Natural Resources:** These resources are present in unlimited quantity in nature and are not likely to be exhausted by human activities. Examples: Sunlight, air. **Exhaustible Natural Resources:** The amount of these resources in nature is limited. They can be exhausted by human activities. Examples: Forests, wildlife, minerals, coal, petroleum, and natural gas. b. • Burning fossil fuels releases harmful gases like carbon dioxide and sulfur dioxide. • These gases cause air pollution, global warming, acid rain, and the greenhouse effect, which can lead to climate change and damage ecosystems. • Fossil fuels are limited in supply, so they should be used carefully to conserve them for future use. (Any 1 effect)	½ X4 =2 1
31	a) Main objective of Project Tiger (1973): The main objective of Project Tiger was to protect tigers from extinction and ensure a stable population of this endangered species in India. ➢ Limit factors that lead to the reduction of tiger habitats and mitigate them through suitable management. ➢ It strives to maintain the tiger population in the natural environment. ➢ To ensure the population of tigers for economic, scientific, cultural, aesthetic, and ecological values. (Any 1) b) i) Extinct species: An extinct species is one that has completely disappeared from the Earth. Example: Dodo.	1 ½+½=1

	ii) How paper recycling reduces deforestation: Recycling paper reduces the need to cut trees, thereby helping to conserve forests and prevent deforestation.	1
32	a. **a) Calculation of pressure:** Pressure $P = \frac{\text{Force}}{\text{Area}}$ $P = \frac{500\ \text{N}}{4\ \text{m}^2} = 125\ \text{Pa}$ **Answer: 125 Pa** b. Broader straps spread the weight of the bag over a **larger area, reducing the pressure** on the shoulders and making it more comfortable to carry.	(Formula + substitution + Ans + unit) ½ X 4 = 2 1
33	a) Tug of war: Force by Team A = 25 N Force by Team B = 95 N Net force = 95 N – 25 N = 70 N (towards Team B) Result: Team B will win because they apply the greater force. b) Effect of force in different situations: i) Moulding clay into different shapes: Force changes the shape of the clay. ii) A batsman hitting a ball: Force changes the speed and direction of the ball.	1+1 = 2 ½+½=1
	SECTION D	

34	Difference between regular and diffused reflection <table><tr><th></th><th>Regular Reflection</th><th></th><th>Diffused Reflection</th></tr><tr><td>1.</td><td>It takes place on a smooth and shiny surfaces.</td><td>1.</td><td>It takes places on rough surface.</td></tr><tr><td>2.</td><td>In this case all rays are parallel after reflection.</td><td>2.</td><td>Reflected are in different direction.</td></tr></table> • i) • ii)  • Have regular eye checkups and consult an eye specialist if there is any problem. • Use suitable spectacles if advised by a doctor. • Proper lighting is important: • Too little light causes eyestrain and headaches. • Too much light from lamps or laser torches can injure the retina. • Never look directly at the Sun or any powerful light. • Do not rub your eyes. If dust enters, wash with clean water. Consult a doctor if irritation persists. • Maintain proper reading distance: Do not hold books too close or too far from your eyes. • Include vitamin A–rich foods in your diet (e.g., carrots, spinach, broccoli, cod liver oil, eggs, milk, curd, butter, papaya, mango) to prevent eye troubles like night blindness (Any 2) A- eye lens, B- Optic nerves	½+½=1 1+1=2 ½+½=1 ½+½=1
35	a) Refining of petroleum is the process of separating petroleum into useful products.	1

	b) CNG burns more cleanly than wood and does not produce smoke, so it is better for the environment and health. c) Coke is used for extracting metals from their ores and manufacturing of steel. d) Uses of petroleum products: i) Kerosene: Fuel for stoves, lamps and for jet aircrafts ii) Bitumen: Used for surfacing roads, paints iii) Petrol: Motor fuel, aviation fuel, solvent for dry cleaning iv) Paraffin wax: Used for making Ointments, candles, vaseline, etc.	1 1 ½X 4= 2
36	a) i) Food preservation: Food preservation is the process of protecting food from decay and spoilage so that it can be stored for a longer time. a) ii) Two chemical food preservatives: Sodium benzoate, Potassium metabisulphite, citric acid and Sodium metabisulphite b) The milk is heated to about 70 ^{o} C for 15 to 30 seconds and then suddenly chilled and stored. By doing so, it prevents the growth of microbes. c) Fermentation is the process in which simple sugars are converted into alcohol and carbon dioxide by the action of yeast. E.g., Bread, wine, Pizza, Dosa, idli	2 2 ½+½ =1
	SECTION E	
37	i) Hunting, killing, and poaching of animals are strictly prohibited ii) Examples of flora in Pachmarhi include sal, teak, mango, jamun, silver ferns, and Arjun, while fauna includes chinkara, blue bull, barking deer, cheetal, leopard, wild dog, and wolf.	½+½=1 ½+½=1 1+1=2

	iii) A wildlife Sanctuary protects animals in their natural habitat, a National Park protects the entire ecosystem, including plants and landscapes	
38	i) Plasmodium ii) Female Anopheles mosquito iii) Use mosquito nets and repellents, spray insecticides, and most importantly, stop the collection of stagnant water around the house to prevent mosquito breeding. (Any 2)	1 1 1+1=2
39	i) This is because of the difference in internal and external air pressure. There is less air pressure inside than outside, so the outside air pressure pushes the surface of the rubber sucker towards the wall, making it difficult to pull. ii) Although atmospheric pressure is very large, our body does not get crushed since the pressure inside balances the pressure outside. iii) Drinking through a straw and using a vacuum sucker to lift objects.	1 1 1+1=2
	TOTAL MARKS	80