



INDIAN SCHOOL AL WADI AL KABIR

FINAL EXAMINATION (2023-24)

CLASS: VII

Sub: SCIENCE

MAX.MARKS: 80

DATE: 07-03-2024

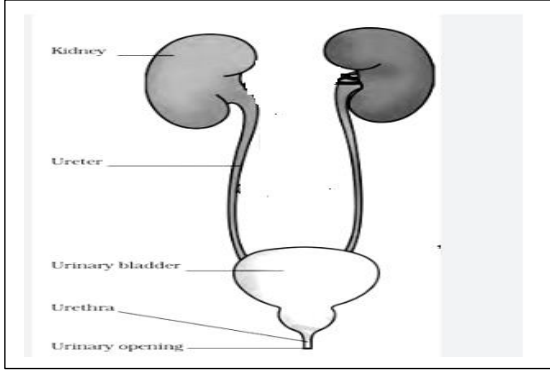
Set -I

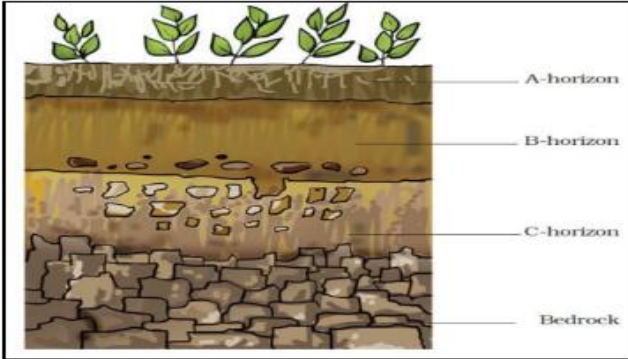
TIME: 3 HOURS

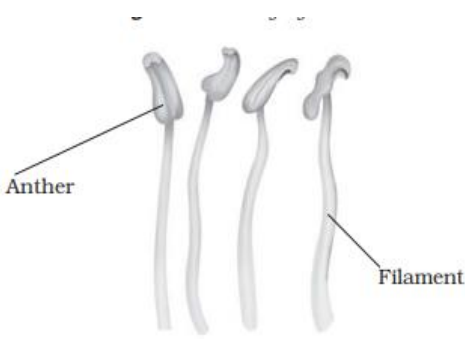
ANSWER KEY

SECTION A (1X20=20)

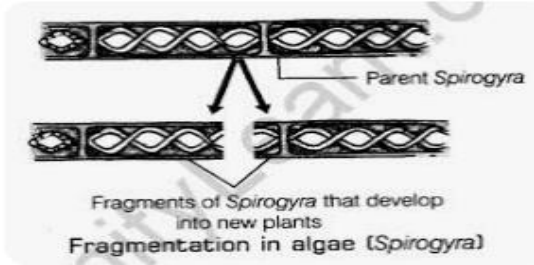
1	b) Galvanisation	1
2	a) Melting of ice	1
3	c) Acid rain	1
4	b) Window cleaner and Soap	1
5	b) WBC	1
6	d) Stethoscope	1
7	c) Earthworm and frog	1
8	b) 15-18 times in a minute	1
9	c) Molars and premolars	1
10	b) Rumen	1
11	c) 6 m	1
12	b) Adaptation	1
13	c) Seed 4	1
14	c) (i) and (ii)	1
15	b) Amount of water vapour in the atmosphere	1
16	a) 5 mL/min	1
17	<i>i) Both A and R are true and R is the correct explanation of the assertion.</i>	1
18	<i>iii) A is true but R is false.</i>	1
19	<i>ii) Both A and R are true but R is not the correct explanation of the assertion.</i>	1
20	<i>iv) A is false but R is true</i>	1
SECTION B (2X6=12)		
21	a) Rusting of iron requires contact with water (moisture) and oxygen. In coastal areas, humidity is higher in comparison to that in deserts; hence, rusting of iron objects is faster in coastal areas than in deserts.	1
	b) In forming a crystal no new substance formed or no change occurs in the chemical properties of the substance only the shape changes, Hence it is an example of physical change.	1
22	a) Great care should be taken while handling laboratory acids and bases because these are corrosive and can cause skin irritation and burns.	1
	b) Neutral, this can be verified by using red and blue litmus papers. Both the indicators will not show a change in colour with distilled water. This proves that distilled water is neutral.	1

23	<p>a) (i) Leaves have small pores called stomata for the exchange of oxygen and carbon dioxide.</p> <p>(ii) Root hairs take up air from airspaces present between soil particles.</p> <p>b) The cramps occur when muscle cells respire anaerobically. The partial breakdown of glucose produces lactic acid. The accumulation of lactic acid causes muscle cramps.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p>
24	<p>a) i) The villi are finger-like outgrowths that are present on the inner walls of the small intestine.</p> <p>ii) <u>The villi increase the surface area for absorption of the digested food.</u> Each villus has a network of thin and small blood vessels close to its surface. The surface of the villi absorbs the digested food materials.</p> <p>b) Pseudopodia are used by amoeba to capture their prey and also for movement.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>
25	 <p>The diagram illustrates the human urinary system. It shows two kidneys at the top, connected by two ureters to a central urinary bladder. From the bottom of the bladder, a single urethra leads to the urinary opening. Labels with leader lines point to each of these parts: Kidney, Ureter, Urinary bladder, Urethra, and Urinary opening.</p>	<p>1+1(draw and label)</p>
26	<p>a) When a person feels tired or sleepy, their breathing rate slows down. The lungs do not get enough oxygen from the air, resulting in yawning. Yawning brings extra oxygen into the lungs and removes more carbon dioxide and thus, helps us to stay awake.</p> <p>b) Similarities:</p> <p>(i) In both aerobic and anaerobic respiration, food is broken down to release energy.</p> <p>(ii) Both take place inside cells.</p> <p>(iii) Both produce byproducts.</p>	<p>1</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>
SECTION C(3X7=21)		
27	<p>a) - (i) Plane mirror forms an erect image.</p> <p>(ii) It forms a virtual image.</p> <p>(iii) The size of the image is the same as that of the object.</p> <p>(iv) The image is formed at the same distance behind the mirror as the the object stands in front of it.</p> <p>(v) The Image formed is a laterally inverted image i.e., the right-hand side</p>	<p>$\frac{1}{2} + \frac{1}{2}$ (any two)</p>

	<p>of the object seems to be the left-hand side and vice-versa.</p> <p>b) Angle of incidence is the angle between the incident ray and the normal to the plane mirror at the point of incidence. The Angle of reflection is the angle between the reflected ray and the normal to the plane mirror at the point of reflection.</p> <p>c) Convex mirrors can form images of objects spread over a large area so these help the drivers to see the traffic behind them.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p>
28	<p>a) i) When an iron nail is dipped in the copper sulphate solution we observe the change of colour of the solution from blue to green due to the formation of iron sulphate a new substance. The brown deposit on the iron nail is copper, another new substance.</p> <p>ii) $\text{Copper sulphate} + \text{Iron} \longrightarrow \text{Iron sulphate} + \text{Copper}$</p> <p>b) The Ozone layer protects us from ultraviolet radiation which comes from the sun. Ozone absorbs ultraviolet radiation and breaks down to form oxygen. If not absorbed by ozone, it would reach the earth's surface and cause harm to us and other life forms. In this way, the ozone layer absorbs harmful ultraviolet radiation.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>1</p>
29	<p>a) We often sneeze when we inhale a lot of dust-laden air to expel the foreign particles. These particles get past the hair in the nasal cavity and irritate the lining of the cavity which results in sneezing.</p> <p>b) As we take in the air (inhalation) it fills up the lungs. This moves the ribs up and outwards while the diaphragm moves downwards. The lungs while releasing air (exhalation) from the body, move the ribs down and inward while the diaphragm moves into its original position.</p>	<p>1</p> <p>1+1</p>
30	<p>a) Moisture content = Weight of moist soil (g) – Weight of dry soil (g) = 700g – 632g = 68g</p> <p>b)</p> <div style="text-align: center;">  <p>The diagram illustrates the layers of soil. At the top, there are green plants. Below them is the A-horizon, which is the top layer of soil. Below the A-horizon is the B-horizon, which contains small dark spots representing roots or organic matter. Below the B-horizon is the C-horizon, which consists of larger, lighter-colored soil particles. At the bottom is the Bedrock, which is a solid, dark-colored layer.</p> </div>	<p>1</p> <p>1+1</p>

		(Drawing, labelling)		
31	<p>a) The Toucan has a big, strong, and sharp beak to squash many kinds of nuts and berries found on trees. It also feeds on small birds and lizards using its beak and narrow leather-like tongue.</p> <p>b) Weather is a complex phenomenon that can vary over a short period of time and thus it is difficult to predict the weather of a place, while it is easier to predict climate as it is the average weather pattern taken for a long period of time.</p> <p>c) Red-eyed frog has developed sticky pads on its feet to help it climb trees. Large red eyes with slit-like black pupils scare away predators.</p>	<p>1</p> <p>1</p> <p>1</p>		
32	<p>a) The given figure shows self-pollination, as the pollen grains from the anther of the flower are transferred to the stigma of the same flower.</p> <p>b)</p> <div style="text-align: center;">  </div> <p>c) i) Plants produced by vegetative propagation take less time to grow and bear flowers and fruits earlier than those produced from seeds. ii) The new plants are exact copies of the parent plant, as they are produced from a single parent.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>($\frac{1}{2} + \frac{1}{2}$ drawing+ labelling)</p> <p>1</p>		
33	<p>a) 1-Salivary glands - Salivary glands secrete saliva. Saliva helps in moistening the food for easy swallowing. It has enzymes that break down starch into simple sugars (Maltose). 2. Liver - The liver is a reddish-brown gland situated in the upper part of the abdomen on the right side. It is the largest gland in the body. It secretes bile juice that is stored in a sac called the gall bladder. The bile plays an important role in the digestion of fats.</p> <p>b) When digestion is completed, carbohydrates get broken into glucose and proteins into amino acids.</p>	<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>		
SECTION D(5X3=15)				
34	<p>a)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">CONCAVE LENS</td> <td style="width: 50%; text-align: center;">CONVEX LENS</td> </tr> </table>	CONCAVE LENS	CONVEX LENS	<p>$\frac{1}{2} \times 4=2$</p>
CONCAVE LENS	CONVEX LENS			

	<p>1. A concave lens is thin in the middle and thicker at the edges</p> <p>2. It is also known as diverging lens</p> <p>3. The image looks smaller through a concave lens.</p>	<p>1. A convex lens is thicker in the middle and thin at the edges</p> <p>2. It is also known as converging lens</p> <p>3. A convex lens usually magnifies the image.</p>					
	<p>b) i) If the object is placed very near to the mirror, then the image formed is virtual and erect.</p> <p>ii) The image formed by a concave mirror is real and inverted if the object is at a distance from the mirror.</p> <p>c) Take a glass prism. Allow a narrow beam of sunlight through a small hole in the window of a dark room to fall on one face of the prism. Let the light coming out of the other face of the prism fall on a white sheet of paper or a white wall. We see colours similar to those in a rainbow. This shows that the sunlight consists of seven colours.</p>		<p>$\frac{1}{2} + \frac{1}{2}$</p> <p>2</p>				
35	<p>a)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Arteries</th> <th style="text-align: center;">Veins</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <p>Arteries are the thick blood vessels. They transport blood away from the heart. They carry oxygen rich blood from heart to all the parts of the body except pulmonary artery. There are no valves present.</p> </td> <td style="vertical-align: top;"> <p>Veins are the thin blood vessels. They transport blood towards the heart. They carry carbon dioxide rich blood from all the parts of the body to heart except pulmonary vein. Valves are present which allow blood to flow only towards the heart.</p> </td> </tr> </tbody> </table> <p>b) i) Those tissues which transport water, minerals, and food to different parts of a plant are called vascular tissues. ii) Xylem and phloem</p> <p>c) A-vena cava, B-Pulmonary artery</p>	Arteries	Veins	<p>Arteries are the thick blood vessels. They transport blood away from the heart. They carry oxygen rich blood from heart to all the parts of the body except pulmonary artery. There are no valves present.</p>	<p>Veins are the thin blood vessels. They transport blood towards the heart. They carry carbon dioxide rich blood from all the parts of the body to heart except pulmonary vein. Valves are present which allow blood to flow only towards the heart.</p>		<p>$\frac{1}{2} \times 4 = 2$</p> <p>$1 + \frac{1}{2} + \frac{1}{2}$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>
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36	<p>a) The process in which the male gamete fuses with the female gamete to form a new cell (called a zygote) is called fertilisation.</p> <p>b) Seed dispersal avoids overcrowding of young plants around their parent plants. It helps prevent competition between the plants and their seedlings for sunlight, water, and minerals. One of the benefits of seed dispersal is that it enables the plant to grow into new habitats for wider distribution and provides them with a better chance of survival.</p>		<p>1</p> <p>2</p>				

	<p>c) It is a mode of asexual reproduction. An alga breaks into two or more fragments. These fragments grow into new individuals. This process continues and they cover a large area in a short period.</p>	1
		1
SECTION E (3X4=12)		
37	<p>i) Hydrochloric acid</p> <p>ii) The reaction between an acid and a base is known as a neutralisation reaction.</p> <p>iii) Antacid tablet contains magnesium hydroxide. It neutralises the effect of excessive acid in our stomach.</p>	1+1+2
38	<p>i) The removal of fertile topsoil from land by wind or water is called soil erosion.</p> <p>ii) waste products from industries that contain chemicals, excessive use of fertilisers, pesticides, and insecticides, untreated sewage water, and non-biodegradable waste like polythene plastic, and metal</p> <p>iii) Soil conservation practices such as terrace farming, crop rotation, building dams and barriers, and afforestation are essential to mitigate erosion and pollution, preserving soil health for future generations</p>	1 $\frac{1}{2} + \frac{1}{2}$ (any two) $(\frac{1}{2} \times 4=2)$
39	<p>a) The seasonal journeys from colder to warmer places to cope with cold and shortage of food supply during winter months is called migration.</p> <p>b) The polar regions present an extreme climate. These regions are covered with snow and it is very cold for most of the year. For six months the sun does not set at the poles while for the other six months, the sun does not rise. In winter, the temperature can be as low as -37°C.</p> <p>c)</p> <ul style="list-style-type: none"> • It has thick layers of stiff and densely packed feathers that block the cold Antarctic waters from reaching its skin. • A thick layer of blubber under feathers to keep it warm. • Penguins also huddled together to keep themselves warm. 	1 1 $(\frac{1}{2} \times 4=2)$

	<ul style="list-style-type: none">• Penguins are good swimmers. Their bodies are streamlined and their feet have webs, making them good swimmers.	
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