

SISHYA SCHOOL,HOSUR
Lateral entry examinations 2022-23

Class: VII-VIII
Subject: Science

Max.Marks:25
TIME : 45 MIN

Instructions:i) All questions are compulsory.
ii) Draw diagrams wherever necessary.

SECTION -A (PHYSICS)

1. Birds can adapt themselves to various weather conditions but how do their feathers protect them from the cold? (1m)
2. A cheetah runs a distance of 200 metres in 10 seconds. What is the speed of the cheetah in
(a) m/s, (1.5m)
(b) km/h? (1.5m)
3. Describe a simple experiment to demonstrate that an electric current produces a magnetic effect. (2m)
4. Illustrate the set-up used by Newton to obtain a spectrum.(2m)

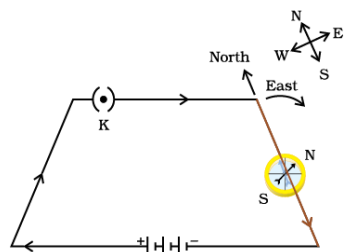
SECTION-B (CHEMISTRY)

1. Is the meaning of 'weak acid' the same as that of 'dilute acid'?(2m)
2. If you get a turmeric (*haldi*) stain on your dress and try to wash it off with soap, the stain turns red. Explain with reason. (2m)
3. You are given a solution of a solid and a liquid. How can you obtain the solid from it?(2m)
4. Calculate the time in minutes needed to percolate 3 liters of water to a sample of soil having a percolation rate of 25 ml /minute? (2m)

SECTION-B (BIOLOGY)

1. Digestion of food in all animals occurs inside the body. Do you agree? Justify your answer. (2m)
2. Reha's grandmother tripped in the stairs but managed to escape a fall. Yet her ankle started to swell and she had intense pain. The X ray reports showed that there was an airline crack in the ankle. Why was her ankle damaged so badly?(2m)
3. The axial skeleton is composed of 80 bones in total. Categorize the bones present in various parts of the axial skeleton. (1m)
4. Take three test-tubes. Fill 3/4th of each with water. Label them A, B and C. Keep a snail in test-tube A, a water plant in test-tube B and in C, keep snail and plant both. Which test-tube would have the highest concentration of CO₂?(3m)
5. In a city, there are separate pipes for disposing sewage and storm water. Is this necessary? Why/why not?(1m)

S.No	Question & answer	M	S	T
1.	<p>Birds can adapt themselves to various weather conditions but how could their feathers protect them from the cold?</p> <p>Ans: A bird fluffs its feathers to form tiny air spaces (pockets) to trap air. As air is a poor conductor of heat, the trapped air prevents the flow of heat from the body of the bird to the surroundings.</p>	1	App	2 min
2.	<p>A cheetah runs a distance of 200 metres in 10 seconds. What is the speed of the cheetah in</p> <p>(a) m/s, (b) km/h?</p> <p>Ans:</p> <p>Speed is given by the expression,</p> $\text{Speed} = \frac{\text{Distance}}{\text{Time}}$ <p>(a) Distance travelled by cheetah = 200 m</p> <p>Time taken = 10 sec</p> $\text{Speed} = \frac{200}{10} = 20 \text{ m/s}$ <p>(b) Distance travelled by cheetah = 200 m = $\frac{200}{1000}$ km = 0.2 km</p> <p>(1km = 1000m)</p> <p>Time taken = 10sec = $\frac{10}{60 \times 60}$ hours</p> <p>(1 hour = 60 minutes and 1minute = 60 seconds)</p> <p>So, speed = $\frac{0.2}{\left(\frac{10}{60 \times 60}\right)} = 72 \text{ km/h}$</p>	1+1+1	App	3
3.	<p>Describe a simple experiment to demonstrate that an electric current produces a magnetic effect.</p> <p>Ans: Take two wires and remove the insulation from the two ends of the both wires. Connect one wire to the negative terminal of cell. Secure the connection with the insulation tape. Similarly connect the end with the positive terminal of cell. Place the magnetic compass near the wire. Keep the eye on the magnetic compass. The magnetic compass will be deflected which shows current carrying wire produce magnetic field.</p>	1+1	U	4



4. Illustrate the set-up used by Newton to obtain a spectrum.

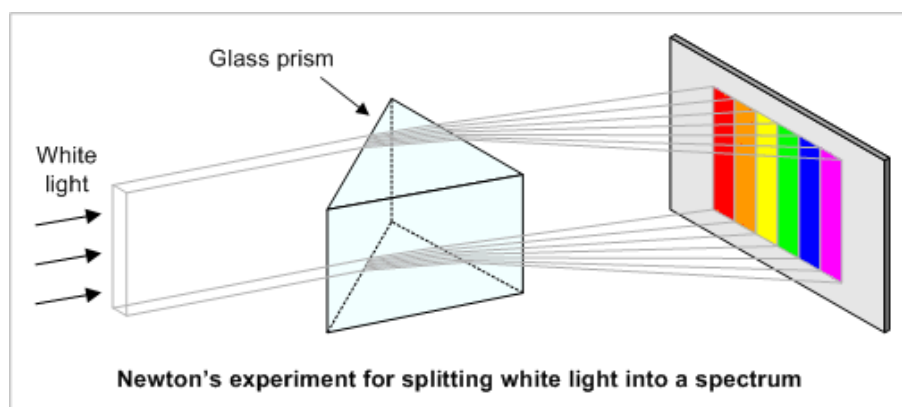
1+1

K

5

Ans:

Sir Isaac Newton showed that when a **thin ray of light passed through a triangular piece of glass known as prism**, the light split into seven colors called spectrum. He allowed a thin beam of light to fall on a prism kept in a dark room.



SISHYA SCHOOL, HOSUR
Lateral entry examinations 2020-21

Class: VII-VIII

Subject: Chemistry

Marks: 8

Answer key

S.No	Question & answer	M	S	T
1.	Is the meaning of 'weak acid' the same as that of 'dilute acid'? Ans: Weak acids are completely different from dilute acids. Weak acids are non-corrosive in nature even in their highly concentrated state. Generally, all organic acids like citric acid, lactic acid, oxalic acid, etc., are weak acids. However, dilute acids are also non-corrosive in nature but are formed by mixing concentrated acids with a large amount of water. For example, dilute hydrochloric acid, dilute sulphuric acid, etc. Dilute acids can include both strong and weak acids.	2	U	3
2.	If you get a turmeric (<i>haldi</i>) stain on your clothes while eating food, and try to wash it off with soap, the stain becomes red. Why? Ans: Turmeric is a natural acid-base indicator. It turns red in a basic solution and pale yellow in an acidic solution.	2	U	3

	Therefore, the turmeric stain will turn red after coming in contact with the soap, indicating the basic nature of the soap (generally soaps are bases – containing sodium hydroxide). Turmeric contains a type of yellow pigment which is responsible for the staining the clothes.			
4.	You are given a solution of a solid and a liquid. How can you obtain the solid from it? Ans: We can separate a solid from a liquid by the process of 'Evaporation'. This process is based on the fact that liquids vaporize easily while solid do not. In this process, a solution of a solid and a liquid is heated, molecules of liquid start evaporating and solid substance starts to settle down in the jar. After complete evaporation of liquid, the solid substance can easily be extracted.	2	App	5
5.	Calculate the time in minutes needed to percolate 3 litres of water to a sample of soil having a percolation rate of 25 ml /minute? Ans: time taken =? Amount of water = 3l = 3000 mL percolation rate = 25 mL/min percolation rate = amount of water (mL) / time taken for percolation Thus, the time taken for percolation = amount of water (mL)/ percolation rate Time taken = 3000 mL/ 25 mL/min = 120 minutes So, time-taken by the water to percolate in the given sample of soil is 120 minutes.	2	App	2

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Lateral entry examinations 2020-21

Class: VII-VIII

Subject: Biology

Marks: 9

Answer key

S.no	Answer key	Marks	Time	Skill
1	Digestion of food in all animals occurs inside the body. Do you agree? Justify your answer. Answer: No, digestion does not occur inside the body in all organisms. Certain animals such as spiders inject their digestive juices in the body of their prey. These juices digest the different body parts of the insect and it is then consumed by spider. This process is called external digestion. Thus, all animals do not show digestion inside their bodies.	2	1 min	U
2	Reha's grandmother tripped in the stairs but managed to escape a fall. Yet her ankle started to swell and she had intense pain. The X ray reports showed that there was an air line crack in the ankle. Why was her ankle damaged so badly? Answer: Women suffer from Vitamin D deficiency after menopause as the bones cannot absorb calcium. This condition is called as osteoporosis. That is why Reha's grandmother's leg was fractured for a slight twist.	1 1	1 min`	App
3	The axial skeleton is composed of 80 bones in total. Categorize the bones present in various parts of the axial skeleton Answer: 1. 22 bones in the skull. 2. 7 bones in the hyoid. 3. 25 bones in the rib cage.	0.5	1	K

	4. 26 bones in the vertebral column.	0.5		
4	<p>Take three test-tubes. Fill 3/4th of each with water. Label them A, B and C. Keep a snail in test-tube A, a water plant in test-tube B and in C, keep snail and plant both. Which test-tube would have the highest concentration of CO₂? Why?</p> <p>Answer: Test tube A will have the highest concentration of CO₂. This is because test tube A contains snail. Snail is an organism that breathes in O₂ and breathes out CO₂. Hence, CO₂ concentration increases in test tube A.</p> <p>Test tube B contains a water plant, which takes in CO₂ for food synthesis and gives out O₂. Hence, more O₂ concentration is found in test tube B.</p> <p>Test tube C contains both a snail and a plant. The CO₂ produced by the snail is utilized by the plant for its food synthesis and the O₂ released by the plant is utilized by the snail for respiration. Therefore, test tube A has the highest concentration of CO₂.</p>	1 1 1	3	U
5	<p>In a city, there are separate pipes for disposing sewage and storm water. Why is this necessary?</p> <p>Answer: here are separate pipes for disposing sewage and storm water because storm water infiltration into wastewater system can cause sewage overflow, which may lead to several environmental damages.</p>	1	1	K

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