

Winter Break Homework

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Shivalal

Class - IX A

Competency based questions -

Q1. A few drops of perfume are sprayed in one corner of a room. After some time, the fragrance spreads throughout the room.

(A) Explain this observation using the concept of diffusion.

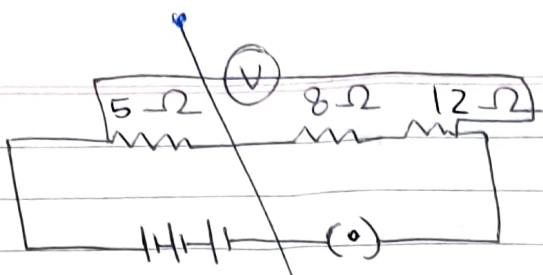
(B) How does temperature affect the rate of diffusion?

Q2. If you place a solid piece of sulphur in a closed jar a potted plant was kept in a dark room for a week, and its leaves turned yellow. Explain the reason and suggest what can be done to restore the green color.

Q3. Ramesh added salt to water and stirred it until it dissolved. Later, he added chalk powder to water, but it settled at the bottom.

(A) Identify and differentiate the type of mixtures formed in each case.

Ans 39. a)



b) Total resistance $\Rightarrow 5\ \Omega + 8\ \Omega + 12\ \Omega = 25\ \Omega$

total current $= I = \frac{V}{R} = \frac{10}{25} = \underline{\underline{0.4\ A}}$

c) P.D across 8 ohm $\Rightarrow V = IR$
 $V = 0.4 \times 8$
 $V = \underline{\underline{3.2\ volts}}$

(B) Suggest a method to separate chalk powder from water.

Q4- Why do astronauts appear weightless in space? how does this relate to the concept to free fall?

Q5- A factory releases untreated waste into a nearby river.

(A) How will this affect the aquatic ecosystem?

(B) Suggest two measures to prevent such pollution.

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