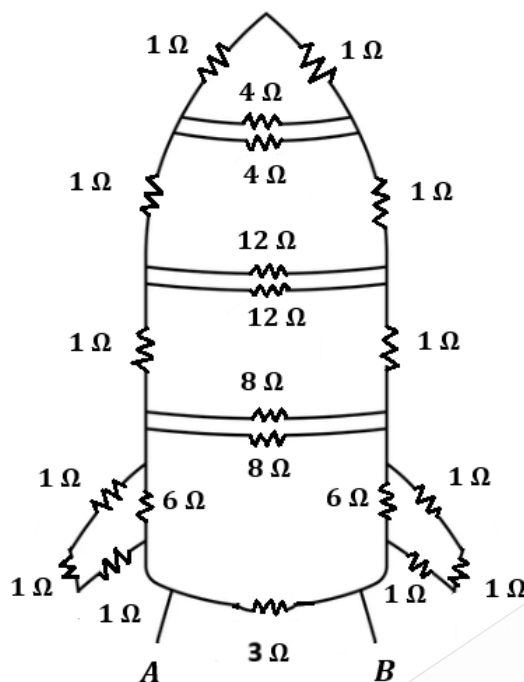


Physics

1. Calculate the equivalent resistance between A and B.



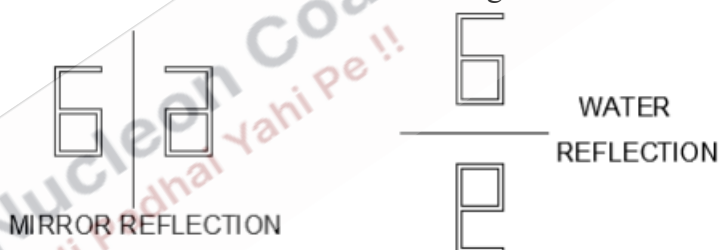
(A) 8Ω

(B) 6Ω

(C) 3Ω

(D) 2Ω

2. Examples of mirror and water reflections are shown in the figures below:



An object appears as the following image after first reflecting in a water and then reflecting on mirror.



The original object is:

- (A) $h2.5$ (B) $2.5H$ (C) $h5.2$ (D) $h5.5$

3. The magnetic field lines due to two adjacent bar magnets are shown in the figure.

Statement – I: A, C represent north poles and B, D represent south poles.

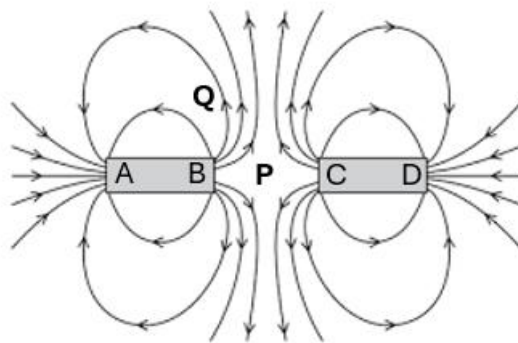
Statement – II: A, D represent north poles and B, C represent south poles.

Statement – III: B, C represent north poles and A, D represent south poles.

Statement – IV: Magnetic field at point P is more than that of Q.

Statement – V: Magnetic field at point P is less than that of Q.

Select the correct statements.



(A) I and IV

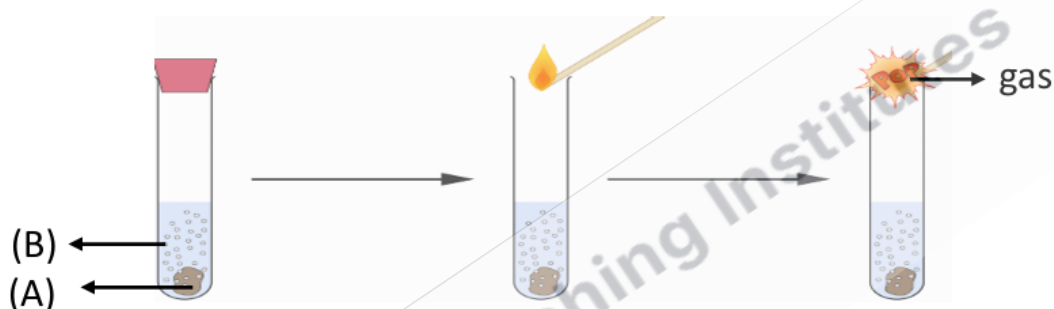
(B) III and IV

(C) II and V

(D) III and V

Chemistry

4.



In this picture (A) Is a metal (Atomic number = 30) which react with king of chemicals (B) give a gas. Identified A, B and the name of gas respectively.

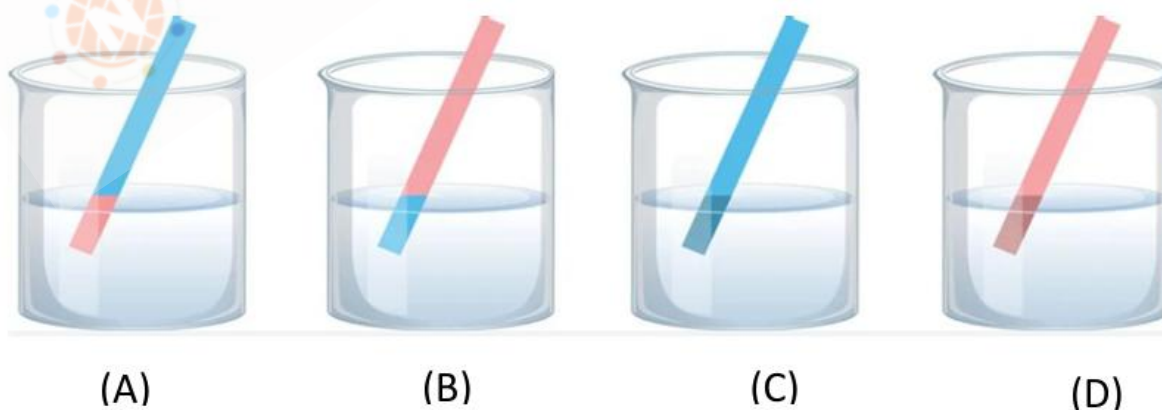
(A) Copper (Cu), Sulfuric acid, N_2

(B) Zinc (Zn), HCl, H_2

(C) Zn, Sulfuric Acid, H_2

(D) Nickel (Ni), Nitric acid, CO_2

5. Subradeep get acidity and doctor suggests some antacid. But he dissolved it in beaker and make a solution. Identified the correct beaker of this solution with litmus paper experiment.



6. Gold easily not dissolved in any acid. But for dissolving it highly concentrate acidic condition was introduced. What is it.....

(A) HCl and Nitric acid in 1:3 ratio

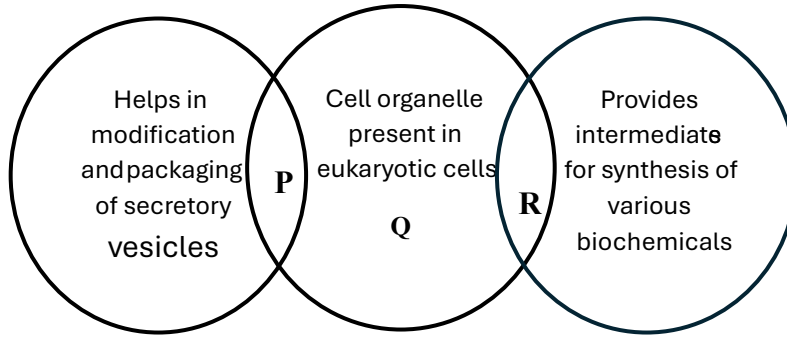
(B) HCl and Nitric acid in 3:1 ratio

(C) Sulfuric acid and Nitric acid in 3:1 ratio

(D) Nitric acid and sulfuric acid in 3:1 ratio

Biology

7. Identify P, Q and R in the given Venn diagram and select the incorrect statement regarding them.

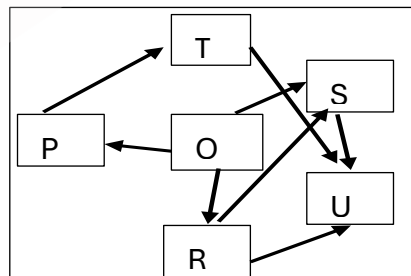


- A. P could be ribosome which helps in detoxification of toxic substances in the liver.
 B. Q could be lysosome which digests the stored food contents and even cells during starvation to provide necessary energy.
 C. R could be mitochondria whose number in a cell depends upon the requirement of energy of that cell.
 D. Q could be peroxisomes which is involved in photorespiration in plants.
8. Some people got trapped in a lift for 15 minutes due to power outage.

Which of the following options correctly shows the changes in the amount of nitrogen, oxygen and carbon dioxide in the air inside the lift till the lift opens?

	Amount of Nitrogen	Amount of oxygen	Amount of carbon dioxide
A.	Increases	Decreases	Increases
B.	No change	Decreases	Increases
C.	Decreases	No change	Decreases
D.	No change	Increases	No change

9. Refer to the given food web and read the given statements.



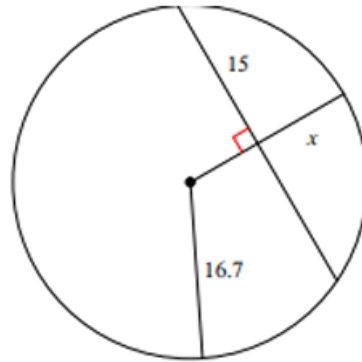
- i) Organisms P uses light energy to produce its food.
 ii) Four food chains are operating in the given food web.
 iii) There are two omnivores in the given food web.
 iv) There are three secondary consumers in the given food web.

Which of the given statements is/are correct regarding this food web?

- A. i) and iii) only
- B. iv) only
- C. ii) and iv) only
- D. i), ii) and iii) only

Mathematics

10. Find the length of the segment indicated.

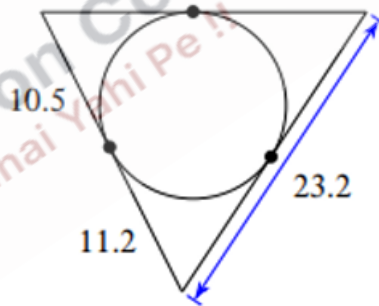


- (A) 9.1 (B) 9.4 (C) 10.2 (D) 9.8

11. If $\frac{2x+1}{x^2-5x+6} = \frac{A}{x-3} + \frac{B}{x-2}$, then the value of A, B is:

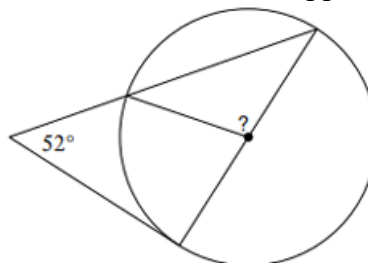
- (A) 7, 5 (B) -7, 5 (C) 7, -5 (D) -7, -5

12. Find the perimeter of the polygon. Assume that lines which appear to be tangent are tangent.



- (A) 67 (B) 67.4 (C) 65.4 (D) 63.4

13. Find the angle measure indicated. Assume that lines which appear to be tangent are tangent.



- (A) 100° (B) 103° (C) 105° (D) 104°

14. Find the value of $(\sin 10)^\circ + (\sin 20)^\circ + (\sin 30)^\circ + \dots + (\sin 80)^\circ$

- (A) 2 (B) 3 (C) 4 (D) 1

15. Sum of n terms of the series $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots$ is

(A) $\frac{n(n+1)}{2}$	(B) $\frac{2n(n+1)}{3}$
(C) $\frac{n(n+1)}{\sqrt{2}}$	(D) None of these



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