NEW STANDARD ACADEMY

Exam : MOCK- **NEET - JEE** **Marks: 60**
Date : 04-09-23 **CLASS : 9TH M** **Time: 2 HRS**

PHYSICS

1. A sealed tin of Coca Cola of 400 g has a volume of 300 cm. Calculate the density of the tin.
2. A sealed can of mass 600 g has a volume of 500 cm^3. Will this can sink in water?. Density of water is 1 $g\ cm^{-3}$.
3. A plastic bottle of 500 g has a volume of $450cm^3$. Will the bottle float or sink in water?. Density of water is 1 gcm^{-3}?. Also calculate the mass of the water displaced by the bottle.
4. How much force should be applied on an area of 1 cm^2 to get a pressure of 15 Pa?.
5. The mass of brick is 2.5 kg and its dimensions are 20 $cm \times 10cm \times 5cm$. Find the pressure exerted on the ground when it is placed on the ground with different faces.
6. The volume of 50 g of a substance is 20 cm^3. If the density of water is 1 gcm^{-3}, will the substance float or sink?.
7. Define 'thrust'. What is the S.I. unit of thrust ?

CHEMISTRY

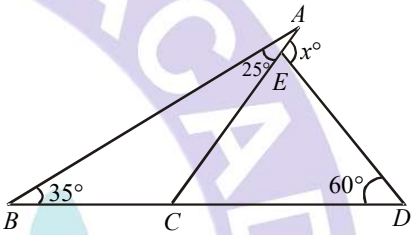
1. What is the meaning of 'concentration of solution'?.
2. Hydrogen is considered as element. Why?.
3. Give difference between mixture and compound.
4. Write the properties of a Solution.
5. What makes water as a universal solvent?.
6. 110 g solution of salt is present in 550 g of solution. Calculate the concentration of solution.

BIOLOGY

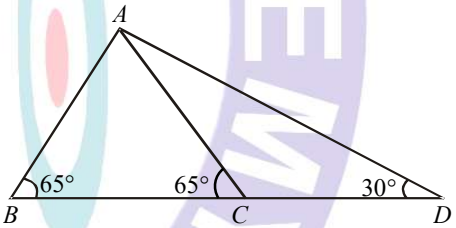
1. Name two groups of warm blooded animals with four-chambered heart.
2. Mention the characteristic features of arthropod.
3. What are the unique features of Cnidarians ?
4. Write about sexual dimorphism in Aschelminthes.
5. What are the unique features of sponges ?
6. Differentiate between Annelida and Arthropoda.
7. What are the peculiar features that you find in parasitic platyhelminthes ?

MATHS

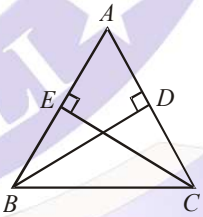
1. In the figure find the value of xº.



2. In the adjoining figure, find the measure of ∠BAC, ∠ACD ?

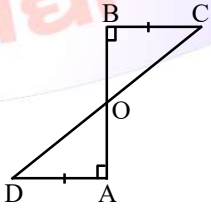


3. In Fig. BD and CE are two altitudes of a ΔABC such that BD = CE.

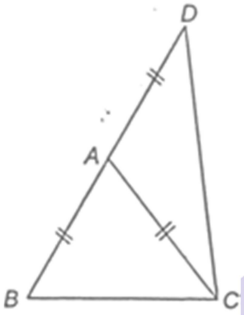


Prove that ΔABC is isolceles.

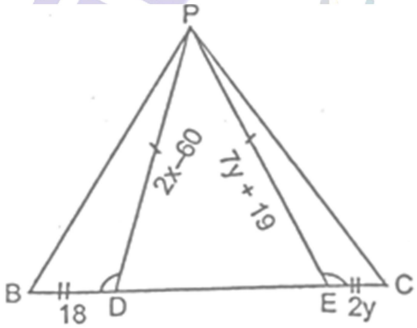
4. AD and BC are equal perpendiculars to a line segment AB. Show that CD bisects AB.



5. In the figure, AB = AD prove that ∠BCD is a right angle.



6. In figure, the congruent parts of triangles have been indicated by line markings. Find the values of x & y.



7. **Factorize of the expression**

$p^4 - 81q^4$

8. Factorize of the expression

$125\ a^3 + \frac{b^3}{27}$

9. If x–7 is a factor of $p(x) = x^3 - 9x^2 + kx + 693$ then find the value of k.

10. If polynomial $x^3 + \ell x + m$ is dividing (x – 1) & (x + 1) then remainder is 7. Find values of ℓ and m.