# Solution of the day/ September - 5, 2019

## 6th Class

- **Mathematics:** Ans : (A)

LCM of three numbers = 9570 As HCF is always a factor of LCM ∴ LCM must be completely divisible by HCF here, 9570 is completely divisible by 11 only ∴ 11 is HCF of three numbers

- **Physics:** Ans: (C)
- **Chemistry:** Ans: (A)
- **Biology:** Ans: (A)

Animals have their own special characteristics to protect themselves from enemies and from danger. Chameleon protect itself from enemies by changing the colour of the body.

## 7th Class

- **Mathematics :** Ans : (A)

A:B=3:4 and B:C=7:2 ; $B:C=\frac{4}{7}\times 7:\frac{4}{7}\times 2\Rightarrow 4:\frac{8}{7}$

Since A,B,C are in continued proportion

$A:C=3:\frac{8}{7}=21:8$

- **Physics:** Ans: (C)
- **Chemistry:** Ans: (B)
- **Biology:** Ans: (C)

## 8th class

- **Mathematics:** Ans: (B)

$1^3+2^3+3^3+.....+9^3=2025,$

$(0.11)^3+(0.22)^3+.....+(0.99)^3$

$=(0.11\times 1)^3+(0.11\times 2)^3+.....+(0.11\times 9)^3$

$=(0.11)^3+\left[1^3+2^3+.....+9^3\right]=0.001331\times 2025=2.695275$

- **Physics:** Ans : (B)
- **Chemistry:** Ans: (B)

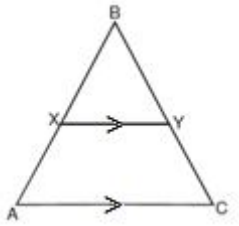
NaCl does not make water hard.

- **Biology:** Ans: (B)

## 9th Class

- **Mathematics :** Ans : (D)

$$\text{ar}\,\Delta BXY = \text{ar}\,\square AXYC \Rightarrow \text{ar}\,\Delta ABC = 2(\text{ar}\,\Delta BXY)$$




$$\Rightarrow \frac{\text{ar}\,\Delta ABC}{\text{ar}\,\Delta BXY} = 2 \Rightarrow \left(\frac{AB}{BX}\right)^2 = 2 \Rightarrow \frac{AB}{BX} = \sqrt{2} \Rightarrow \frac{BX}{AB} = \frac{1}{\sqrt{2}}$$

$$\Rightarrow \frac{AB - AX}{AB} = \frac{1}{\sqrt{2}} \Rightarrow 1 - \frac{AX}{AB} = \frac{1}{\sqrt{2}} \Rightarrow \frac{AX}{AB} = 1 - \frac{1}{\sqrt{2}}$$

$$\Rightarrow \frac{AX}{AB} = \frac{\sqrt{2}-1}{\sqrt{2}}$$

- **Physics:** Ans : (B)

- **Chemistry:** Ans: (C)

- **Biology:** Ans: (A)

## 10th class

- **Mathematics:** Ans : (A)

$$\tan\theta = \frac{2}{3} \Rightarrow \sin\theta = \frac{2}{\sqrt{13}}, \cos\theta = \frac{3}{\sqrt{13}}$$

$$\left(\frac{1+\tan\theta}{\sin\theta+\cos\theta}\right)\left(\frac{1-\cot\theta}{\sec\theta+\text{cosec}\,\theta}\right) = \frac{\left(1+\frac{2}{3}\right)}{\left(\frac{2}{\sqrt{13}}+\frac{3}{\sqrt{13}}\right)} \times \frac{\left(1-\frac{3}{2}\right)}{\left(\frac{\sqrt{13}}{3}+\frac{\sqrt{13}}{2}\right)} = \frac{\frac{5}{3}}{\frac{5}{\sqrt{13}}} \times \frac{\frac{-1}{2}}{\sqrt{13}\times\frac{5}{6}} = \frac{-1}{5}$$

- **Physics:** Ans: (D)
- **Chemistry:** Ans: (B)
- **Biology:** Ans: (C)
- **Reasoning :** Ans: (D)