Solution of the day/ August 16, 2019

6th Class

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

  Any non zero number divided by 0 is not defined

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

7th Class

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

$$x^2+\frac{1}{x^2}=51$$

$$\left(x-\frac{1}{x}\right)^2+2=51$$

$$\left(x-\frac{1}{x}\right)^2=51-2=49$$

$$x-\frac{1}{x}=\pm 7$$

$$x^3-\frac{1}{x^3}=\left(x-\frac{1}{x}\right)\left(x^2+\frac{1}{x^2}+1\right)$$

$$=\pm 7(51+1)=\pm 364$$

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

8th class

- **Mathematics:** Ans: (C)

$$x^{\frac{3}{4}}+y^{\frac{5}{2}}=\left(x^{\frac{1}{4}}\right)^3+\left(y^{\frac{1}{2}}\right)^5=4^3+3^5=64+243=307$$

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

  Ice is a poor conductor of heat (a good thermal insulator) and its density is less than water.

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

9th Class

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

We are not given the nature side FG.

$\because$ We cannot find the angle $\angle FGE$

- **Physics:** Ans : (D)

- **Chemistry:** Ans: (A)

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

10th class

- **Mathematics:** Ans : (C)

The given equations are :

$x - 3y = 7$ _____ (1)

$3x - 3y = 15$ _____ (2)

$x + ky = 3$ _____ (3)

Subtracting equation (1) from equation (2):

$2x = 8 \Rightarrow x = 4$

Substituting $x = 4$ in equation (1) :

$4 - 3y = 7 \Rightarrow 3y = 4 - 7 \Rightarrow y = -1$

$\therefore$ (4, – 1) is the solution of the equations (1) and (2)

It is given that equations (1), (2) and (3) have a common solution.

$\therefore$ (4, – 1) is also a solution of equation (3)

$\therefore$ (4, – 1) satisfies equation (3)

$\therefore 4 + k(-1) = 3 \Rightarrow 4 - k = 3 \Rightarrow k = 1$

Thus, the value of k is 1.

- **Physics:** Ans: (D)

Colour blindness is a genetic disease and still cannot be cured.

- **Chemistry:** Ans: (A)

- **Biology:** Ans: (D)

- **Reasoning :** Ans: (A)

3 yr = $52 \times 3 = 156$ weeks

3 months = $52 \times \frac{1}{4} = 13 weeks$

$\therefore$ Total weeks in 3 yr and 3 months = 156 + 13 = 169 weeks