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⑩ Some Imp Models :-

1) If $a = 2^3 \times 3^1$ | $\text{L.C.M.}(a, b, c) = 2^3 \times 3^2 \times 5^1$, Then $n = \underline{2}$
 $b = 2 \times 3^1 \times 5$ | $(\because \text{H.C.F.} = 3 \neq 3)$
 $c = 3^n \times 5$

2) Given that $\text{HCF}(253, 440) = 11$ and $\text{LCM}(253, 440) = 253 \times R$.
 The value of R is 40 $\left[\because \begin{array}{l} 253 \times 440 = 11 \times 253 \times R \\ 440 = 11 \times 40 \end{array} \right]$

3) The largest number which divides 71 and 126, leaving remainders 6 and 9 respectively is 13 $\left[\because \begin{array}{l} 71 - 6 = 65 \\ 126 - 9 = 117 \end{array} \right]$
 $\begin{array}{r} 65 \overline{) 117} 1 \\ \underline{65} \\ 52 \overline{) 65} 1 \\ \underline{52} \\ 13 \overline{) 52} 4 \\ \underline{52} \\ 0 \end{array}$
 $\text{H.C.F.} = 13$

4) Which of the following is a rational no. 4 C.D $\left[\because 5 + \sqrt{4} = 5 + 2 = 7 \right]$
 (A) $5 - \sqrt{3}$ (B) $3\sqrt{2}$ (C) $\sqrt{2} + \sqrt{3}$ (D) $5 + \sqrt{4}$

5) How many 'prime factors' are there in 'prime factorization' of 5005? 4
 $\left[\because \begin{array}{l} 5 \overline{) 5005} \\ \underline{5} \\ 0 \end{array} \right]$ (i) $5005 = 5 \times 7 \times 11 \times 13$
 (ii) Sum of digits is 4 $\rightarrow$ not a prime no.
 (iii) no. of factors = 4

6) The product of the H.C.F. and L.C.M. of the smallest prime no. & smallest composite no. is 9
 $\left[\because \begin{array}{l} \text{Smallest prime no.} = 2 = 2^1 \\ \text{Smallest composite no.} = 4 = 2 \times 2 = 2^2 \end{array} \right]$
 $\begin{array}{l} \text{L.C.M.} = 4 \\ \text{H.C.F.} = 2 \end{array}$ Product = $2 \times 4 = 8$

7) $\frac{1}{\sqrt{2}}$ is a irrational number $\left[\because \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{\sqrt{2} \times \sqrt{2}} = \frac{\sqrt{2}}{2} \right]$ [B]
 (A) Rational (B) Irrational (C) Both A & B (D) None

8) $(6 + \sqrt{2})(6 - \sqrt{2}) = \underline{34}$ $\left[\because (a+b)(a-b) = a^2 - b^2 \right]$ [B]
 $36 - 2 = 34$
 (A) 10 (B) 32 (C) 4 (D) 34

(A) Rational (B) Irrational (C) Both A & B (D) None. [A]

9) L.C.M. of 12, 15, 21 is 420 $\left[\because \begin{array}{l} 3 \overline{) 12, 15, 21} \\ \underline{4, 5, 7} \end{array} \right]$
 $3 \times 4 \times 5 \times 7 = 420$

10) H.C.F. of 12, 15, 21 is 3 $\left[\because \begin{array}{l} 12 = 2 \times 2 \times 3 \\ 15 = 3 \times 5 \\ 21 = 3 \times 7 \end{array} \right]$

TOTAL CORRECT: A+B+C+D

7+7+10+10

(34)

All The Best

My Dear

Children

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