

LCM & HCF ASSIGNMENT

1) Find the GCD

$$16x^2y^2, 24xy^3z$$

$$= 8xy^2 \text{ [option A]}$$

$$\begin{array}{r|rr} 2 & 16 & 24 \\ \hline 2 & 8 & 12 \\ \hline 2 & 4 & 6 \\ \hline & 2 & 3 \end{array}$$

2) Find the GCD

$$(a-b)^2, (b-c)^3, (c-a)^4$$

$$= 1 \text{ [option D]}$$

4) Find the GCD

$$4x^3, y^3, z^3$$

$$= 1 \text{ [option B]}$$

3) Find the GCD

$$p^5, p^8, p^9$$

$$= p^5 \text{ [option B]}$$

5) Find the GCD LCM

$$25 ab^3c, 100a^2bc, 125ab$$

$$~~= 25ab \text{ [option B]}~~ = 500a^2b^3c \text{ [d option]}$$

b) Find the LCM

$$a^{m+1}, a^{m+2}, a^{m+3}$$

$$= a^{m+3} \text{ [option c]}$$

7) Find the GCD

$$3a^2, 5b^3, 7c^4$$

$$[\text{Aoption}] = 1$$

8) Find the GCD

$$x^4 - 1, x^2 - 1$$

$$\begin{aligned} x^4 - 1 &= (x^2)^2 - 1^2 \\ &= (x^2 - 1)(x^2 + 1) \end{aligned}$$

$$x^2 - 1 = (x - 1)(x + 1)$$

$$\therefore (x - 1)(x + 1) \text{ [option D]}$$

9) Find the GCD

$$a^3 - 9ax^2, (a - 3x)^2$$

$$\begin{aligned} a^3 - 9ax^2 &= a(a^2 - (3x)^2) \\ &= a(a - 3x)(a + 3x) \end{aligned}$$

$$(a - 3x)^2 = (a - 3x)(a - 3x)$$

$$\therefore (a - 3x) = \text{[option B]}$$

10) Find the HCF

$$16 \text{ \& } 24$$

$$= 8 \text{ [option C]}$$

$$\begin{array}{r} 2 \overline{)16} \\ \underline{2 8} \\ 2 4 \\ \underline{2 4} \\ 0 \end{array}$$

10) Find the HCF

$$12 \text{ \& } 20$$

$$\text{option C} = 4$$

$$\begin{array}{r} 2 \overline{)12} \\ \underline{2 6} \\ 0 \end{array}$$

13) Find the HCF

$$90, 15$$

$$\text{option A} = 15$$

$$\begin{array}{r} 5 \overline{)90} \\ \underline{3 0} \\ 0 \end{array}$$

14) option B = 20

$$\begin{array}{r} 10 \overline{)80} \\ \underline{2 0} \\ 0 \end{array}$$

15) LCM of 6, 9

$$\text{b) } 18$$

$$\begin{array}{r} 3 \overline{)6} \\ \underline{2 0} \\ 0 \end{array}$$

16) Find the LCM

8, 12

= a) 24

$$\begin{array}{r|rr} 2 & 8 & 12 \\ \hline 2 & 4 & 6 \\ \hline 2 & 2 & 3 \\ \hline 3 & 1 & 3 \\ \hline & 1 & 1 \end{array}$$

17) LCM of 15, 25, 75

= a) 75

$$\begin{array}{r|rrr} 5 & 15 & 25 & 75 \\ \hline 3 & 3 & 5 & 15 \\ \hline 5 & 1 & 5 & 5 \\ \hline & 1 & 1 & 1 \end{array}$$

18) LCM of two numbers is 432

and their HCF is 36. If one of

the number is 108. Find the other

$$a \times b = \text{LCM} \times \text{HCF}$$

$$108 \times b = \overset{4}{432} \times 36$$

$$b = 144$$

option C = 144

$$\begin{array}{r} 2 \\ 36 \times 4 \\ \hline 144 \end{array}$$

$$19) = 300/60 \text{ m}$$

$$= 5 \text{ hours}$$

5.00 am + 5 hours

= 10.00 am [option D]

20) GCD of 62, 78, 109 leaving remainders 2, 3, 4 resp.?

option A = 15

$$\begin{array}{r} 5 \overline{) 15} \quad 20 \\ 3 \overline{) 3} \quad 4 \\ 2 \overline{) 1} \quad 4 \\ 2 \overline{) 2} \quad 2 \\ 5 \overline{) 1} \end{array}$$

$$\frac{300}{60}$$

$$\underline{162}$$