CLASS – 6   **SUB – MATHS**

EXERCISE – 3E

Q-1. List the first 5 multiples of the following numbers –

   (a)   6

   Multiples of 6 = 6 ,12 , 18, 24 , 30

   (b) 7

   Multiples of 7 = 7 , 14 , 21 , 28 , 35

   (e) 16

   Multiples of 16 = 16 , 32 , 48 , 64 , 80

Q-2. List the multiples of each pair and find the LCM

   (a) 4 , 20

   Multiples of 4 = 4 , 8 , 12 , 16 , 20 , 24 , 28 , 32 , 36 , 40...
   Multiples of 20 = 20 , 40 , 60 ......
   Common multiples of 4 and 20 = 20 , 40
   Lowest number is 20 .
    Hence LCM of 4 and 20 = 20

   (b) 16 , 64

   Multiples of 16 = 16 , 32 , 48 , 64 , 80 , ...
   Multiples of 64 = 64 , 128 ......
   Lowest Common multiple of 16 and 64 = 64
   Hence LCM of 16 and 64 = 64

Q-3. Find the LCM using prime factorisation –

   (a) 72 , 90

2	72
2	36
2	18
3	9

2	90
3	45
3	15
5	5

3	3
	1

1

72 = 2x2x2x3x3
90 = 2x3x3x5
LCM of 72 and 90 = 2x3x3x2x2x5=360

(b) 16 , 30 , 42

2	16
2	8
2	4
2	2
	1

2	42
3	21
7	7
	1

2	30
3	15
5	5
	1

16 = 2x2x2x2
42 = 2x3x7
30 = 2x3x5
LCM of 16 , 42 and 30 = 2x2x2x2x3xx5x7 = 1680

(c) 105 , 175 , 140

5	105
3	21
7	7
	1

5	175
5	35
7	7
	1

2	140
2	70
5	35
7	7
	1

105 = 5x3x7
175 = 5x5x7
140 = 2x2x5x7
LCM of 105 , 175 and 140 = 5x7x2x2x5x3 = 2100

(e)   105 , 135

5	105
3	21
7	7
	1

5	135
3	27
3	9
3	3
	1

105 = 5x3x7

$135 = 5x3x3x3$

LCM of 105 and 135 = 5x3x3x3x7 = 945

Q-4. Find the LCM of the following numbers by common division method –

(a) 40 , 80 , 120 , 160

2	40 , 80 , 120 , 160
2	20 , 40 , 60 , 80
2	10 , 20 , 30 , 40
2	5 , 10 , 15 , 20
5	5 , 5 , 15 , 10
2	1 , 1 , 3 , 2
3	1 , 1 , 3 , 1
	1 , 1 , 1 , 1

LCM of 40 , 80 , 120 and 160 = 2x2x2x2x5x2x3 = 480

(b) 30 , 48 , 120

2	30 , 48 , 120
2	15 , 24 , 60
2	15 , 12 , 30
3	15 , 6 , 15
2	5 , 2 , 5
5	5 , 1 , 5
	1 , 1 , 1

LCM of 30 , 48 and 120 = 2x2x2x3x2x5= 240

(d)   84 , 144 , 96

2	84 , 144 , 96
2	42 , 72 , 48
2	21 , 36 , 24
2	21 , 18 , 12
2	21 , 9 , 6
3	21 , 9 , 3
3	7 , 3 , 1
7	7 , 1 , 1
	1 , 1 , 1

LCM of 84 , 144 and 96 = 2x2x2x2x2x3x3x7 = 2016