Ex 6 (B)

i) Using the common factor method, find the HCF of

i) 16 = 1, 2, 4, 8, 16
35 = 1, 5, 35
HCF = 1

ii) 25 and 20
25 = 1, 5, 25
20 = 1, 2, 10, 5, 20
HCF = 5

iii) 27 and 75
27 = 1, 3, 9, 27
75 = 1, 5, 15, 75, 3
HCF = 3

iv) 8, 12, 18
8 = 1, 2, 4, 8
12 = 1, 2, 3, 4, 6, 12
18 = 1, 2, 3, 6, 9, 18
HCF = 2

1) 24, 36, 35, 60

24 = 1, 2, 3, 8, 14, 12, 24

36 = 1, 2, 3, 4, 6, 9, 12, 36

35 = 1, 5, 7, 35

60 = 1, 2, 3, 4, 5, 12, 10, 20, 60

HCF = 1

2) Using the prime factor method, find the HCF of

i) 5 and 8

5 = 5 x 1 HCF = 1

8 = 8 x 1

ii) 24 and 49

24 = ~~2x2x2x2x2x3x2x2~~ 1 x 24

49 = 1 x 49

HCF = 1

iii) 40, 60, 80

40 = 2 x 2 x 2 x 5

60 = 2 x 2 x 5 x 3

80 = 2 x 2 x 2 x 2 x 5

HCF = 20

iv) 48, 84, 88

48 = 2 x 2 x 2 x 2 x 3

84 = 2 x 2 x 7 x 3

88 = 2 x 2 x 2 x 11

HCF = 4

v) 12, 16, 28

12 = 2 × 2 × 3

16 = 2 × 2 × 2 × 2

28 = 2 × 2 × 7

HCF = 4

3) Using division Method, find the HCF

i) 16 and 24 HCF = 8

ans

```
16 | 24 | 1
   -16
   ---
    08 | 16 | 2
        -16
        ---
         0
```

ii) 18 and 30

HCF = 6

```
18 | 30 | 1
   -18
   ---
    12 | 18 | 1
        -12
        ---
         6 | 12 | 2
             -12
             ---
              0
```

iii) 7, 14 and 24

HCF = 1

```
7 | 14 | 2
  -14
  ---
   0
```

```
7 | 24 | 3
  -21
  ---
   3 | 7 | 2
       -6
       ---
       1 | 3 | 3
           -3
           ---
           0
```

iv) 70, 80, 120, 150 HCF = 10

80 | 120 | 1
−80
40 | 80 | 2
−80
0

40 | 150 | 3
−120
30 | 90 | 1
−30
10 | 30 | 3
−30
0

10 | 70 | 7
−70
0

v) 32, 56 and 46 HCF = 14

32 | 46 | 1
−32
14 | 32 | 3
−32
0

14 | 56 | 4
56
0

4) Use a method of your own choice to find HCF of:

i) 45, 75 and 135 HCF = 5 × 3
= 15

ans 5 | 45, 75, 135
3 | 9, 15, 27
3, 5, 9

ii) 48, 36 and 96

36 | 96 | 2
−72
24 | 36 | 1
−24
12 | 24 | 2
−24
0

36 | 36 | 1
−36
0

2 | 48 | 24 HCF = 2
-48
0
8
-8
0

iii) 66, 33, 132 HCF = 132

33 | 66 | 22
-66
0

33 | 132 | 4
-132
0

iv) 26, 36, 60, 132 HCF = 2

26 | 36 | 1
-26
10 | 26 | 2
-10
6 | 10 | 1
-6
4 | 6 | 1
-4
2 | 4 | 2
-4
0

2 | 132 | 66
-12
12
-12
0

2 | 60 | 3
-6
0

5) Find the greatest number that divides each of 180, 225 and 315 completely.

5 | 180, 225, 315
3 | 36, 45, 63
3 | 12, 15, 21
4, 5, 7

HCF = 5 × 3 × 3
= 45

6) Show that 45 and 56 are co-prime numbers

ans- factors of 45 = 1, 5, 45, 9
factors of 56 = 1, 2, 4, 7, 8, 56
As the no 45 and 56 doesn't have any common factors so they are co-prime numbers.

7) Out of 15, 16, 21 and 28 find all the pairs of co-prime numbers

15 and 16, 15 and 28, 16 and 21

8) Find the greatest number that will divide 93, 111 and 129 leaving remainder 3 in each case

ans) 93, 111, 129
leaving remainder 3 in each case

93 − 3 = 90
111 − 3 = 108
129 − 3 = 126

2 | 30, 108, 126
3 | 15, 54, 63
5, 18, 21

HCF = 2 × 3
= 6

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