(iii) P_{50}

Ans Prime factors of 50 are 2 and 5

2	50
5	25
5	5
	1

EX 8(B)

Q Using the common method find the HCF

(7) (i) 16 and 35

common factors of 16 and 35 are as follows:

F(16) = 1, 2, 4, 8, 16

F(35) = 1, 5, 7, 35

The common factors ~~of 25 are~~ between 16 and 35 = 1

∴ The H.C.F of 16 and 35 = 1

(ii) 25 and 20

common factors of 25 and 20 are as follows:

F(25) = 1, 5, 25

F(20) = 1, 2, 4, 5, 10, 20

CF = 1, 5

HCF = 5

(11)

common factors between 27 and 75 are as follows:-

F(27) = 1, 3, 9, 27

F(75) = 1, 3, 5, 15, 25, 75

The common factor between 27 and 75 = 1, 3

∴ The H.C.F of 27 and 75 = 3

(14) 8, 12 & 18

A:) Common factors between 8, 12 & 18 are as follows:-

F(8) = 1, 2, 4, 8

F(12) = 1, 2, 3, 4, 6, 12

F(18) = 1, 2, 3, 6, 9, 18

CF's = 1, 2

The H.C.F = 2

v) 24, 36, 45 & 60

A:) Common factors between 24, 36, 45, & 60 are as follows:-

F(24) = 1, 2, 3, 4, 6, 8, 12, 24

F(36) = 1, 2, 3, 4, 6, 12, 18, 36

F(45) = 1, 3, 5, 9, 15, 45

F(60) = 1, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60.

Common factors Between 24, 36, 45, and 60 = 1, 3

∴ The H.C.F. of 24, 36, 45 & 60 = 3

(2) The Prime factors of 5 and 8 are as follows:

$P_5 = 5$

$P_8 = 2 \times 2 \times 2$

No Common prime factors between 5 & 8

∴ H.C.F of 5 & 8 = 1

ii) The Prime factors of 24 & 49 are as follows:

$P_{24} = 2 \times 2 \times 2 \times 3$

$P_{49} = 7 \times 7$

No Common prime factors between 24 & 49

Hence H.C.F. of 24 and 49 = 1

(iii) 40, 60 and 80

$P(40) = 2 \times 2 \times 2 \times 5$

$P_{60} = 2 \times 2 \times 3$

$P_{80} = 2 \times 2 \times 2 \times 2 \times 5$

$CF = 2 \times 2 \times 5$

Hence HCF 40, 60 and 80 = 20

(iv) 48, 84 and 88

48 = 2×2×2×2×3

84 = 2×2×3×7

88 = 2×2×2×11

Common Prime Factors = 2×2

H.C.F of 48, 84 & 88 = 2×2 = 4

(v) 12, 16 and 28

12 = 2×2×3

16 = 2×2×2×2

28 = 2×2×7

Common Prime factors between 12, 16 & 28 = 2×2

Hence, H.C.F. of 12, 16 & 28 = 2×2 = 4

3.

i) 16 & 24

Ans: Using division method, we can get,

H.C.F. of 16 & 24

```
      1
   16 | 24
      -16
      ---
       8 | 16
           -16
           ---
            0
```

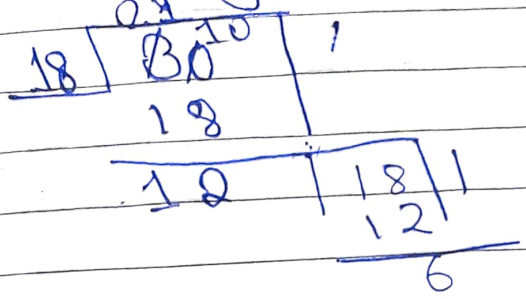
last divisor = 8

H.C.F = 8

(ii) 18 & 30

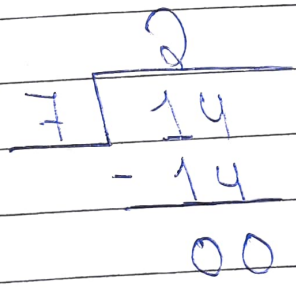
Ans:

H.C.F. of 18, 30 by division method:



(iii) 7, 14 & 24

Ans: using division method, we get



Here, last division is 1

Hence, H.C.F. of 7, 14 & 24 = 1

Q.

iv) 70, 80, 120 & 150

Ans: Using division method

```
          1
70 ) 80
     -70      12
      10 ) 120
          -10↓
           020
          - 20
            000
          15
10 ) 150
     -10
      050
     - 50
       000
```

Hence the last division is 10.

∴ H.C.F. of 70, 80, 120 & 150 = 10

v) 32, 56 & 46

Ans: Using division method

```
          1
32 ) 56
     -32      1
      24 ) 46
          -24
           22
```

4.) i) 45, 75 & 135

A:) 45 = 3 × 3 × 5

75 = 3 × 5 × 5

135 = 3 × 3 × 5

The C.F of 45, 75 & 135 = 3 × 5

∴ H.C.F. of 45, 75 and 135 = 15

ii) 48, 36, 96

A:) 48 = 2 × 2 × 2 × 2 × 3

36 = 2 × 2 × 3 × 3

96 = 2 × 2 × 2 × 2 × 2 × 3

The C.F. of 48, 36 & 96 = 2 × 2 × 3

H.C.F of 48, 36 & 96 = 12

(iii) 66, 33 and 132

A:) 66 =

33 =

132 =

v) 30, 60, 90 & 105

A:) 30 - H.C.F of 30, 60, 90 & 105

60 -

90 -

105 -

30 | 60 | 2

-60

0

30 | 90 | 3

-90

0

H.C.F. of 30, 60 & 90 = 30

H.C.F of 30, 60, 90 & 105 = HCF of 30 & 105

22-06-22
HW
5.

Ans: The greatest number that divides each of 180, 225 & 315 will be the H.C.F. of 180, 225 and 315

~~Using division method, the H.C.F. of~~ HCF of 180 and 225

```
        225
180 | 180 | 1
      45  | 180 | 4
          | 180
          |-----
          |   0
```

HCF of 180 and 225 = 45

H.C.F of 180, 225 & 315: H.C.F of 45 & 315

```
        7
45 | 315
   - 315
   -----
     0
```

Required H.C.F. 45

Since last division is 45

∴ H.C.F of 180, 225 and 315 = 45

(6) Show that 45 and 56 co-prime number

Q) Show that 45 and 56 are Co-prime

```
        1
45 | 56
   -45  4
    11 | 45
      -44  11
       01 | 11
          -11
           0
```

HCF of 45 & 56 = 1

∴ 45 and 56 are co-prime.

(7)

15, 16, 21 and 28 co prime =

15 = 1, 3, 5

16 = 1, 2, 4, 8, 16

~~24~~ = ~~1, 2, 3, 4~~, 1, 3, 7, 21

28 - 1, 2, 4, 7, 14, 28

15 and 16 are common factor = 1

16 and 21 common factor = 1

is they are co-prime

15 and 28 common factor is = 1

factor one only they have no common factor other there.

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

Solution:-

First decrease the leaving remainder 3 from numbers 93, 111 and 129 to required number

$93 - 3 = 90$

$111 - 3 = 108$

$129 - 3 = 126$

In each case the HCF of 90, 108 and 126 will be the greatest number that will divided 93, 111 and 129 leaving remainder 3

Using division method the HCF of 90, 108 and 126 is given below

2	90
3	45
3	15
	5

2	108
2	54
3	27
3	9
	3
	1

2	126
3	63
3	21
7	7
	1

Common factor = 2, 3, 3

HCF = $2 \times 3 \times 3 = 18$