

## EXERCISE – 2F

**Q-1. From the following , find the no divisible by 6 –**

**Divisible by 6 : A number divisible by 6 must be divisible by 2 and 3 , it should satisfy the divisibility rules of both 2 and 3**

a. 672

= 672 is an even number , Hence it is divisible by 2 . The sum of the digits (  $6 + 7 + 2 = 15$  ) is 15 , which is divisible by 3. So 672 is divisible by 2 and 3 . Therefore it is divisible by 6.

b. 813

= 813 is not an even number . Hence 813 is not divisible by 6

c. 7312

= 7312 is an even number , Hence it is divisible by 2 , but the sum of the digits (  $7 + 3 + 1 + 2 = 13$  ) is 13 , which is not divisible by 3. So 7312 is not divisible by 3 . Therefore 7312 is not divisible by 6.

e.. 4314

= 4314 is an even number , Hence it is divisible by 2 . The sum of the digits (  $4 + 3 + 1 + 4 = 12$  ) is 12, which is divisible by 3. So 4314 is divisible by 2 and 3 . Therefore it is divisible by 6.

a. 263

= 263 is not an even number . Hence 263 is not divisible by 6

**Q-2. From the following , find the numbers divisible by 8**

**Divisible by 8 : A number is divisible by 8 if the number formed by the last three digits of the number is divisible by 8.**

a. 328

In 328 , there are 3 digits , which is divisible by 8. Hence 328 is divisible by 8

b. 4758

= In 4758 , the number formed by the last three digits is 728 , which is divisible by 8 . Hence 4728 is divisible by 8

d.. 9096

= In 9096, the number formed by the last three digits is 096 , which is divisible by 8 . Hence 9096 is divisible by 8

g.. 5368

= In 5368 , the number formed by the last three digits is 368 , which is divisible by 8 . Hence 5368 is divisible by 8

j.. 4821

= In 4821 , the number formed by the last three digits is 821 , which is not divisible by 8 . Hence 4821 is not divisible by 8

### EXERCISE – 2G

Q-1. From the following , find the numbers divisible by 9-

**Divisible by 9 : A number is divisible by 9 if the sum of the digits of a number is divisible by 9.**

a. 8163

= In 8163 , the sum of the digits is  $8 + 1 + 6 + 3 = 18$  , which is divisible by 9 , Hence 8163 is divisible by 9

b. 7214

= In 7214 , the sum of the digits is  $7 + 2 + 1 + 4 = 14$  , which is not divisible by 9 , Hence 7214 is not divisible by 9

e.. 1584

= = In 1584 , the sum of the digits is  $1 + 5 + 8 + 4 = 18$  , which is divisible by 9 , Hence 1584 is divisible by 9

j. 8931

= = In 8931 , the sum of the digits is  $8 + 9 + 3 + 1 = 21$  , which is divisible by 9 , Hence 8931 is divisible by 9

Q-2. identify the numbers divisible by 10 –

**Divisible by 10 : A number is divisible by 10 if its unit digit is 0**

a. 29

= In 29 , last digit is 9 not 0 , hence 29 is not divisible by 10

b. 430

= In 430 , last digit is 0 , hence 430 is divisible by 10

d.. 77

= In 77 , last digit is 7 not 0 , hence 77 is not divisible by 10

g.. 17908

= In 17908 , last digit is 8 not 0 , hence 17908 is not divisible by 10

b. 3640

Q-3. Identify the numbers divisible by 11 –

**Divisible by 11 : A number is divisible by 11 if the difference of the sums of the alternate digits is either 0 or divisible by 11**

a. 71412

= In 71412 , the difference of the sum of alternate digits  $7 + 4 + 2$  and  $1 + 1$  is 11 . (  $13 - 2 = 11$  ) , this is divisible by 11 . hence 71412 is divisible by 11

b. 376277

= In 376277 , the difference of the sum of alternate digits  $3 + 6 + 7$  and  $7 + 2 + 7$  is 11 . (  $16 - 16 = 0$  ) . Hence 376277 is divisible by 11

d.. 86124

= In 86124 , the difference of the sum of alternate digits  $8 + 1 + 4$  and  $6 + 2$  is 5 . (  $13 - 8 = 5$  ) is neither 0 nor multiple of 11 . hence 86124 is not divisible by 11

f.. 20438

= In 20438 , the difference of the sum of alternate digits  $2 + 4 + 8$  and  $0 + 3$  is 11 . (  $14 - 3 = 11$  ) , this is divisible by 11 . hence 20438 is divisible by 11

**Q-5. 72a384 is a number ----- value of a ?**

Sol :  $7 + 2 + a + 3 + 8 + 4$  is divisible by 9

$24 + a$  is divisible by 9

The nearest number of 24 which is divisible by 9 is 27

$$27 - 24 = 3$$

Hence when you replace the number a to 3 , the number ( 723384) is divisible by 9

**Q-6. 46a7b2 is ----- a+ b .**

Sol : A number is divisible by 9 if the sum of the digits of the number is divisible by 9

It is given that 46a7b2

Sum of the digits =  $4 + 6 + a + 7 + b + 2$

$$= 19 + a + b$$

(i) Least value of  $a + b = 8$

$$19 + a + b = 19 + 8 = 27 \text{ ( Divisible by 9 )}$$

(ii) Maximum value of  $a + b = 17$

$$19 + a + b = 19 + 17 = 36 \text{ ( Divisible by 9 )}$$

Therefore

Least value of  $a + b = 8$

Maximum value of  $a + b = 17$

