Exercise - 9(c)

(1) Find which of the following no.s are divisible by 2:

i) 352.

In 352, 2 is in the unit's place.
2 is divisible by 2.
So, 352 is divisible by 2.

ii) 523.

In 523, 3 is in the unit's place.
3 is not divisible by 2
So, 523 is not divisible by 2.

iii) 496.

In 496, 6 is in the unit's place.
6 is divisible by 2.
So, 496 is divisible by 2.

iv) 649.

In 649, 9 is in the unit's place.
9 is not divisible by 2.
So, 649 is not divisible by 2.

(2) Find which of the following no.s are divisible by 4:

i) 222.

No. formed by the first two digit = 22.
22 is not divisible by 4.
So, 222 is not divisible by 4.

ii) 532.

No. formed by the last two digits = 32.
32 is divisible by 4.
So, 532 is divisible by 4.

iii) 678

No. formed by the last two digits = 78
78 is not divisible by 4.
So, 678 is not divisible by 4.

iv) 9232.

No. formed by the last two digits = 32.
32 is divisible by 4.
So, 9232 is divisible by 4.

3. Find which of the following no.s are divisible by 8:

i) 324.

No. formed by the last 3 digits = 324
324 is not divisible by 8.
So, 324 is not divisible by 8.

ii) 2536.

No. formed by the last three digits = 536
536 is divisible by 8.
So, 2536 is divisible by 8.

iii) 92760.

The no. formed by the last three digits = 760

760 is divisible by 8.

So, 92760 is divisible by 8.

iv) 444320.

The no. formed by the last three digits = 320

320 is divisible by 8.

So, 444320 is divisible by 8.

(4) Find which of the following no.s are divisible by 3:

i) 221

Sum of the digits.

$= 2 + 2 + 1$

$= 5.$

5 is not divisible by 3.

So, 221 is not divisible by 3.

ii) 543.

Sum of the digits.

$= 5 + 4 + 3$

$= 12.$

12 is divisible by 3

So, 543 is divisible by 3.

iii) 28492.

Sum of the digits = 2+8+4+9+2
= 25

25 is not divisible by 3.
So, 28492 is not divisible by 3.

iv) 92349

Sum of the digits = 9+2+3+4+9
= 27

27 is divisible by 3.
So, 92349 is divisible by 3.

(5) Find which of the following nos are divisible by 9:

i) 1332.

Sum of the digits = 1+3+3+2
= 9.

9 is divisible by 9.
So, 1332 is divisible by 9.

ii) 53247.

Sum of the digits = 5+3+2+4+7
= 21

21 is not divisible by 9.
So, 53247 is not divisible by 9.

iii) 4968

Sum of the digits = 4+9+6+8
= 27

27 is divisible by 9.
So, 4968 is divisible by 9.

iv) 200314.

Sum of the digits = 2+0+0+3+1+4

= 10

10 is not divisible by 9

So, 200314 is not divisible by 9.

(6) Find which of the following nos are divisible by 6.

(i) 324

324 is divisible by 2.

3+2+4 = 9 (9 is divisible by 3)

324 is divisible by 3.

So, 324 is divisible by 6.

ii) 2010

2010 is divisible by 2.

2+0+1+0 = 3 (3 is divisible by 3)

2010 is divisible by 3.

So, 2010 is divisible by 6.

iii) 33278

33278 is divisible by 2.

3+3+2+7+8 = 23 (23 is not divisible by 3)

33278 is not divisible by 3.

So, 33278 is not divisible by 6.

iv) 15505

15505 is not divisible by 2.

1+5+5+0+5 = 16 (16 is not divisible by 3)

15505 is not divisible by 3.

So, 15505 is not divisible by 6.

(7) Find which of the following no.s are divisible by 5.

i) 5080
5080 is divisible by 5 as it has 0 in its unit place.

ii) 66666
66666 is not divisible by 5 as it has neither 5 nor 0 in its unit place.

iii) 755
755 is divisible by 5 as it has 5 in its unit place.

iv) 9207
9207 is not divisible by 5 as it has neither 0 nor 5 in its unit place.

(8) Find which of the following no.s are divisible by 10.

i) 9990
9990 is divisible by 10 as it has 0 in its unit place.

ii) 0
0 is divisible by 10 as it has 0 in its unit place.

iii) 847.
847 is not divisible by 10 as it does not have 0 in its unit place.

iv) 8976
8976 is not divisible by 10 as it does not have 0 in its unit place.

iii) All the problems in ~~your~~ your Mathematics books that are difficult for Amit.

Ans- Yes, it is a set.

H.W
5° 9.2

Ch-9

Exercise-9(c)

(9) Find which of the following are ~~divisible~~ divisible by 11.

i) 5918

$5+1=6$

$9+8=17$

Difference $= 17-6$

$= 11$

11 is divisible by 11.

So, 5918 is divisible by 11.

ii) 68,717

$6+7+7=20$

$8+1=9$

Difference $= 20-9$

$= 11$

11 is divisible by 11.

So, 68,717 is divisible by 11.

iii) 3882.

$3+8=11$

$8+2=10$

Difference $= 11-10$

$= 1$

1 is not divisible by 11.

So, 3882 is not divisible by 11.

6. iv) 10,857.

$1+8+7=16$

$0+5=5$

Difference $= 16-5$

$= 11$

11 is divisible by 11

So, 10,857 is divisible by 11.

(10) Find which of the following nos are divisible by 15.

i) 960

960 is divisible by 5.

$9+6+0=15$. (15 is divisible by 3)

960 is divisible by 3.

So, 960 is divisible by 15.

ii) 8295.

8295 is divisible by 5.

$8+2+9+5=24$ (24 is divisible by 3)

8295 is divisible by 3.

So, 8295 is divisible by 15.

iii) 10243

10243 is not divisible by 5

1+0+2+4+3 = 10 (10 is not divisible by 3)

10243 is not divisible by 3

So, 10243 is not divisible by 6.

iv) 5013

5013 is not divisible by 5.

5+0+1+3 = 9 (9 is divisible by 3)

5013 is divisible by 3

So, 5013 is not divisible by 6.

(11) In each of the following nos, replace M by the smallest whole no. to make the resulting no. divisible by 3:

i) 64M3

6+4+3+M = 13

Multiple of 3, nearest to 13 (but greater than 13) = 15

So, 6+4+3+M = 15

⇒ M = 15 − 13

⇒ M = 2.

ii) 46M46

4+6+4+6 = 20

Multiple of 3, nearest of 20 (but greater than 20) = 21

So, 4+6+4+6+M = 21

⇒ 20 + M = 21

⇒ M = 21 − 20

⇒ M = 1

iii) 27M53

$2+7+5+3+M = 17$

Multiple of 3, nearest to 17 (but greater than 17) = 18

So, $2+7+5+3+M = 18$

$\Rightarrow 17+M = 18$

$\Rightarrow M = 18-17$

$\Rightarrow M = 1$

(12) In each of the following nos, replace M by the smallest whole no. to make the resulting no. divisible by 9.

i) 76M91

$7+6+9+1 = 23$

Multiple of 9, nearest to 23 (but greater than 23) = 27

So, $7+6+9+1+M = 27$

$\Rightarrow 23+M = 27$

$\Rightarrow M = 27-23$

$\Rightarrow M = 4$

ii) 27548M

$7+7+5+4+8 = 31$

Multiple of 9, nearest to 31 (but greater than 31) = 36

So, $7+7+5+4+8+M = 36$

$\Rightarrow 31+M = 36$

$\Rightarrow M = 36-31$

$\Rightarrow M = 5$

iii) 627M9.

$6+2+7+9 = 24$

Multiple of 9, nearest to 24 (but greater than 24) = 27

So,

So, $6+2+7+9+M=27$

$\Rightarrow 24+M=27$

$\Rightarrow M=27-24$

$\Rightarrow M=3$

(13) In each of the following no.s, replace M by the smallest whole number to make the resulting no. divisible by 11.

i) 39M2.

~~3 [illegible] = 8~~

~~[illegible] 9+2 = 11~~

~~Multiple of 11, nearest to M.~~

Sum of the even places -

$3+M$.

Sum of the odd places -

$9+2=11$

The difference of the two sums should be divisible by 11.

Hence, ($3+M$ should be equal to 11)

$(3+M)-11=0$

$\Rightarrow 3+M=11$

$\Rightarrow M=11-3$

$\Rightarrow M=8$.

ii) 3M422

Sum of the even places -

$3+4+2=9$.

Sum of the odd places -

$M+2$.

The difference of the two sums should be divisible by 11.
Hence, $M+2=9$
$\Rightarrow M=9-2$
$\Rightarrow M=7.$

iii) 70975M
Sum of even places -
$7+9+5=21$
Sum of odd places -
$0+7+M=7+M$

The difference of the two sums should be divisible by 11,
Hence, to make the difference 11, 10 has to be subtracted
should be.
Difference $= 21-(7+M)=11$
$\Rightarrow 21-7-M=11$
$\Rightarrow 14-M=11$
$\Rightarrow 14-11=M$
$\Rightarrow 3=M.$

iv) 14M75
Sum of even places -
$4+7=11$
Sum of odd places -
$1+M+5=6+M.$

The difference of the two sums should be divisible by 11,
Hence, $6+M=11$
$\Rightarrow M=11-6$
$\Rightarrow M=5.$

(14) State 'True' or 'False' :-

i) If a no. is divisible by 4, it is divisible by 8. False

ii) If a no. is a factor of 16 and 24, it is a factor of 48. True.

iii) If a no. is divisible by 18, It is divisible by 3 and 6. True

iv) If a divides both b and c completely then, A divides (i) a + b, (ii) a - b also completely True.