CW
T. 7.21

DIVISIBLITY RULES

A no. is divisible by ...

[2] If the last digit is even (0, 2, 4, 6, 8 etc)

[3] If the sum of the digit is divisible by 3.

[4] If last 2 digits form a no. divisible by 4.

[5] If last digit is 5 or 0

[6] If no. is divisible by both 2 and 3

[9] If the sum of the digits is divisible by 9.

[10] If the last digit is 0.

Hw

EX - 9(B)

Q1.) Find which of the following nos. are divisible by 2-

i) 352 ans - 352 and 496

ii) 523

iii) 496

iv) 649

Q2) Find which of the following nos are divisible by 4:-

i) 222

ans- 532 and 9232

ii) 532

iii) 678

iv) 9232

Q4) Find which of the following nos. are divisible by 3:-

i) 221 = 2+2+1 = 5 ×

ans- 543 and 92349

ii) 543 = 5+4+3 = 12 ✓

iii) 28,492 = 2+8+4+9+2 = 25 ×

iv) 92,349 = 9+2+3+4+9 = 27 ✓

Q5) Find which of the following nos. are divisible by 9.-

i) 13932 = 1+3+9+3+2 = 18 ✓

ans- 11332 and 4968

ii) 53297 = 5+3+2+9+7 = 26 ×

iii) 4[illegible]4968 = 4+9+6+8 = 27 ✓

iv) 9200314 = 2+3+1+4 = 10 ×

Q6) Find which of the following divisible by 6.

i) 324 = 3+2+4 = 9 ✓ ans = 324 and 2010

ii) 2010 = 2+1 = 3 ✓

iii) 33278 = 3+3+2+7+8 = 23 ×

iv) 15505 = 1+5+5+5 = 16 ×

Q7) Find which of the following nos are divisible by 5.

i) 5080 ✓ ans = 5080 and 755.

ii) 66666 ×

iii) 755 ✓

iv) 9207 ×

Q8) Find which of the following nos are divisible by 10.

i) 9990 ✓ ans = 9990 and 0

ii) 0 ✓

iii) 847

iv) 8976

Ew
2-7-21

Divisibility Rules

[7] Remove the last digit double it, subtract it from the left over. The result is divisible by 7.

[8] The no. represented by its last three digits is divisible by 8.

[11] Ex- 23579

5th 4th 3rd 2nd 1st

~~even~~ even

Sum of digits in ~~even~~ odd place

= 2+5+9 = [16]

Sum of digits in even place

= 3+7 = 10

Difference ~~bet~~ of the sum of addition and even place = 16 - 10 = 6

[6 ÷ 11] ×

6 is not divisible by 11. So, 23,579 is not divisible by 11

Q. 68,717.

68717

Sum of digits in odd place

= 6+7+7 = [20]

Sum of digits in even place = 8+1=9

2 Difference of the sum of the addition and even place = 20-9 = 11

So, 11 is divisible by 11.

∴ 868717 is divisible by 11.

Ex-9(c)

Q.1) Find which of the nos. are divisible by 8 :-

i) 324 x

ii) 2536 ✓

iii) 92760 ✓

iv) 9464320. ✓

ans = 2536, 92760, and 9464320.

Q.2) Find which of the following nos. are divisible by 11.

i) 5918 x

ii) 88717 ✓

i) 5918

5918

Sum of the digits in odd place = 5+1=6 9+8=17

Sum of the digits in even place = 9+8=17 5+1=6

Difference of the two sum digits in both odd and even place =

17 - 6 = 11

∴ Because 11 is divisible by 11, so 5918 is divisible by 11.

ii) 68717

68717

Sum of the digits in odd place = 6+7+7=20

Sum of the digits in even place = 8+1=9

Difference of the two sum digits in both odd and even place = 20-9

= 11

∴ Because 11 is divisible by 11, so 68717 is divisible by 11.

iii) 3882

Date
Page

3882

Sum of the digits in odd place = 8+2 = 10

Sum of the digits in even place = 3+8 = 11

Difference of the two sums of odd and even place = 11-10

∴ Because 1 is not divisible by 11, so 3882 is not divisible by 11.

(iv) 10857

Sum of the digits in odd place = 7+8+1 = 16

Sum of the digits in even place = 5+0 = 5

Difference of the two sums of the odd and even place = 16-5 = 11

∴ Because 11 is divisible by 11, so 10857 is divisible by 11.

11.c) 64m3

= 6+4+m+3 = 13+m

If m will be 2 then = 13+2 = 15 which is divisible by 3. No = 6,4,23

ii) 46m46.

= 4+6+m+4+6 = 20+m

∴ If m will be 1 then 20+1 = 21 which is divisible by 3 No. = 96146

iii) 27,8m53 =

= 2+7+m+5+3

= 17+m

∴ If m will be 1 then 17+1 = 18 divisible by 3.

No. = 27153

Q12) i) 76m91 = 7+6+m+9+1 = 23+m

∴ If m will be 4 then 23+4 = 27 divisible by 9.

No. 76491

ii) 77548m = 7+7+5+4+8+m = 31+m

∴ If m will be 5 then 31+5 = 36 divisible by 9. No.

75485

iii) 627m9.

= 6+2+7+m+9 = 24+m

If m will be 3 then - 24+3 = 27 divisible by 9.

(13) c) 39m2

Sum of digits in odd place = 9+2 = 11

Sum of digits in even place = 3+m

If m will be 8 then - 3+8 = 11

11-11 = 0 divisible by 11

ii) 3m422

Sum of digits in odd place = 2+4+3 = 9

Sum of digits in even place = 2+m

If m will be 7 then. 2+7 = 9

9-9 = 0 divisible by 11

iii) 70925m

Sum of the digits in odd place = m+7+0

Sum of the digits in even place = 5+9+7 = 21

If m will be 3 then 7+3=10

21-10 = 11 divisible by 11.

3.7.21

Divisiblity Rules.

15 A no. is divisible by 15 if it is divisible by 3 and 5 both.

Ex-9(C)

Q10) i) 960

9+6+0 = 15

So, it is divisible by 15 because it is divisible by 3 and 5.

ii) 8295

~~8+2+9+5=24~~

So, It is not divisible by 15 because ~~its~~ ~~unit's place is not~~ ~~last dig~~ is divisible by 3 and 5.

iii 10243

So, So, It is not divisible by 15 because the units place is not divisible by 5.

iv) $\overline{b}012$

$\therefore$ It is not divisible by 15 because it is not ~~divisible~~ divisible by 5.

Q14) i) If a no. is divisible by 4 it is divisible by 8.

[F]

ii) If a no. is a factor of 16 and 24, it is a factor of 48. [T]

iii) If a no. is divisible by 18, it is divisible by 3 and 6. [T]

iv) If a ~~divides both~~ both b and c completely, then a divides ~~(i) a+b (ii) a-b~~ (i) a+b (ii) a-b also completely. [T]