10 If the last digit is zero

Ex:- 9(c)

i) 352 = Digit at unit's place = 2
Hence, the number is divisible by 2.

ii) 523 = Digit unit's place = 3
Hence, the number is not divisible by 2.

Divisibility by 7 :-> i) Multiply unit digit by 2.

ii) Subtract it from the rest of digits.

3 x 2 = 6
34 - 6 = 28
28 is a multiple of 7
So, 348343 is divisible by 7.

Divisibility by 11 :- If the difference between the sum of its digits in even places and sum of its digits in odd places is either 0 or multiple of 11.

Sum of digits in even places = 5
Sum of digits in odd places = 3 + 2 = 5
difference between these two sums = 5 - 5 = 0

∴ 352 is divisible by 11.

EX:- 9 (c)

i) 496 = Digit at unit's place = 6
Hence, the number is divisible by 2

iv) 649 = Digit at unit's place = 9
Hence, the number is not divisible by 2.

2. i) 222 = Digits at place value = 22
Hence, the number 22 is not divisible by 4.

ii) 532 = Digit at unit's place value = 32
Hence, the number 32 is divisible by 4.

iii) 678 = Digits at place value = 78
Hence, the number 78 is not divisible by 4.

iv) 9232 = Digits at place value = 32
Hence, the number 32 is divisible by 4.

3. i) 324 = Digits at Place value = 324
Hence, the number is not divisible by 8.

ii) 3536 = Digits at Place value = 536
Hence, the number is divisible by 8.

iii) 92760 = Digits at Place value = 760
Hence, the number is divisible by 8.

iv) 44320 = Digits at Place value = 320
Hence, the number is divisible by 8.

4. i) 221 = Digits at Place value = 2+2+1=5
Hence, the number is not divisible by 3.

ii) 543 = Digits at Place value = 5+4+3=12
Hence, the number divisible by 3.

iii) 922892 = Digits at Place value = 2+9+2+8+9+2=32
Hence, the number is not divisible by 3.

iv) 92349 = Digits at Place value = 9+2+3+4+9 =27
Hence, the number is divisible 3.

5. i) 1332 = Digits at Place value = 1+3+3+2=9
Hence, the number is divisible by 9.

ii) 53247 = Digits at Place value = 5+3+2+4+7 =21
Hence, the Number is divisible by 9.

iii) 4968 = Digits at Place value = 4+9+6+8=27
Hence, the number is divisible by 9.

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(ii) 200314 :- Digits at place value = 2+0+0+3+1+4
= 10
Hence, the number is not divisible by 9.

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(6) i) 324 = Digits at Place Value = 3+2+4 = 9
Hence, 324 is divisible by 6.

ii) 2010 = Digits at Place Value = 2+0+1+0 = 3
Hence, 2010 is ~~not~~ divisible by 6.

iii) 33278 = Digits at Place Value = 3+3+2+7+8 = 23
Hence, 33278 is not divisible by 6.

iv) 15505 = Digits at Place Value = 1+5+5+0+5 = 16
Hence, 15505 is not divisible by 6.

(7) i) 5080 = Digits at Place Value = 5080
Hence, 5080 is divisible by 5.

ii) 66666 = Digits at Place Value = 66666
Hence, 66666 is not divisible by 5.

iii) 755 = Digits at Place Value = 755
Hence, 755 is divisible by 5.

iv) 9207 = Digits at Place Value = ~~7~~ 9207
Hence, 9207 is not divisible ~~5~~ by 5.

(8) i) 9990 = Digits at Place Value = 9990
Hence, 9990 is divisible by 10.

ii) 0 = Digits at Place Value = 0
Hence, 0 is divisible by 10.

iii) 847 = Digits at Place Value = 847
Hence, 847 is not divisible.

iv) 8976 = Digits at Place Value = 8976

Hence, 8976 is not divisible by 8975.

9. i) 5918 = Sum of the even places from the right side = 8+1+5 = 22 9+8 = 17

Sum of the odd places from the right side = 5+1 = 6

Difference of the two sums = 17-6 = 11

Hence, 5918 is divisible by 11.

ii) 68,717 = Sum of the ~~even~~ places from the right side = 8+1 = 9

Sum of the odd places from the right side = 7+7+6 = 20

Difference of the two sums = 20-9 = 11

Hence, 68,717 is divisible by 11.

iii) 3882 = Sum of the even places from the right side = 8+2 = 10

Sum of the odd places from the right side

= 8+3 = 11

Difference of the two sums = 11-10 = 1

Hence, 3882 is not divisible by 11.

iv) 10,857 = Sum of the even places from the right side = 8 + 0 = 5

Sum of the odd places from the right side = 7 + 5 + 1 = 13 7 + 8 + 1 = 16

Difference of the two sums = 16 − 5
= 11

Hence, 10,857 is divisible by 11.

by 11.

10.i) 960 = Digits 960 at Place Value = 960
Hence, 960 is divisible by 15.

ii) 8295 = Digits at Place value = 8295
Hence, 8295 is divisible by 15.

iii) 10243 = Digits at Place value = 10243

Hence, 1023 is not divisible by 25.

iv) 5023 = Digits at place value = 5023
Hence, 5023 is not divisible by 25.

11.i) 64 M 3

Sum of digits =

A→ 6+4+M+3 = 13+M

13+M = 3, 6, 9, 12, 15, 18, 21, ...

13+M = 15

M = 15 − 13 = 2

M = 2

ii) 46M 46

A→ Sum of digits =

4+6+M+4+6 = 20+M

20+M = 3, 6, 9, 12, 15, 18 21, ...

20+M = 21

M = 21 − 20 = 1

M = 1

iii) 27M 53

A) Sum ~~2 7 M 5 3~~ of digits =

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

17+M = 3, 6, 9, 12, 15, 18, 21, 27, ...

M = 17 − 18 = 18 − 17 = 1
~~= 1~~
= M = 1
~~= M = 1~~

12. i) ~~3 7 M 2~~ 76M 91
A) sum of the digits =
7+6+M+9+1 = 23+M

23+M = 9, 18, 27, 36, 45, 54, ...
23+M = 27
M = 27 − 23 = 4
= M = 4

ii) 7 7 5 4 8 M

A) sum of digits = 7+7+5+4+8+M = 31+M

31+M = 9, 18, 27, 36, 45, 54, ...
31+M = 36
M = 36 − 31 = 5
M = 5

iii) 6 2 7 M 9
A) ~~6~~ sum of digits = 6+2+7+M+9 = 24+M
24+M = 9, 18, 27, 36, 45, 54, ...
24+M = 27
M = 27 − 24 = 3
M = 3

13.i) 39M2

A) Sum of the even digits = 9+2 = 11

Sum of the odd digits = 3+M

Difference of two sums = 11 − (3+M)

= 11 − 3 − M = 8 − M

By the divisibility test of 11

8 − M = 0 8 = M M = 8

ii) 3M422

A) Sum of the even digits = 2+M

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

Difference of the two sums = 9 − (2+M)

= 9 − 2 − M

= 9 − 2 = 7

= M = 7

iii) 70975M

A) Sum of the odd digits = 7+9+5 = 21

Sum of the even digits = 0+7+M

Difference of the two sums = 21 − (7+M) = 11, 22, 33...

21 − 7M = 0 = 14 − M = 11

= 14 − 11 = 3 = M = 3

iv) 14M75

A) Sum of the even digits = 4+7 = 11

Sum of the odd digits = 1+M5 = 6+M

Difference of the two sums = 11 − (6+M)

= 11 − 6 − M

= 11 − 6 = 5 = M = 5

14.i) If a number is divisible by 4. It is divisible by 2

ii) If a number is a factor of 16 and 24, It is a factor of 8. T

iii) If a number is divisible by 18, It is divisible by 3 and 6. T

iv) If a divider both b and c completely, then a divider i) a+b ii) a−b also completely. T