① **i)** 352 =

35② → even number

so 352 is divisible by 2.

ii) 523 =

Here the last digit is 3 which is not a even number.
So 523 is not divisible by 2.

iii) 496 =

49⑥ = even number.

496 is divisible by 2.

iv) 649 =

64⑨ = odd number

649 is not divisible by 2

② **i)** 222

= 2②②

22 is not divisible by 4

So 222 is not divisible by 4.

ii) 532

= 5③②

32 is divisible by 4

So, 532 is divisible by 4.

iii) 678

= 6⑦⑧

78 is not divisible by 4

So 678 is not divisible by 4.

iv) 9232 =

9232

32 is divisible by 4

So, 9232 is divisible by 4.

3) i) 324

Here 324 is not divisible by 8

So 324 is not divisible by 8.

ii) 2356   2536 =

2536 = 536 is divisible by 8.

So 2356 is divisible by 8.

iii) 92760 =

Here 92760 is divisible by 8.

So 92760 is divisible by 8.

iv) 444320

Here 444320 is divisible by 8.

So 444320 is divisible by 8.

4) 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 their digits =
2+8+4+9+2 = 25 (25) is not divisible by 3.
So, 28492 is not divisible by 3.

iv.) 92349 = Sum of their digits =
9+2+3+4+9 = 27 (27) is divisible by 3.
92349 is divisible by 3.

⑤ i.) 1332 =

Sum of their numbers = 1+3+3+2 =
1+3+3+2 = 9, divisible by 3 ⎫
1332 - even no =, divisible by 2 ⎬ Divisible by 9
So 1332 is divisible by 9.

ii.) 53247 =

Sum of their digits =
5+3+2+4+7 = 21 is divisible by 3 ⎫ not divisible by
53247 - odd no not divisible by 2 ⎬ 9
So 53247 is not divisible by 9.

iii.) 4968 = Sum of their digits =
4+9+6+8 = 27, divisible by 3 ⎫
4968 - even no, divisible by 2 ⎬ divisible by 9
4968 is divisible by 9.

iv.) 200314 = Sum of their digits =
2+0+0+1+4 = 7, not divisible by 3. ⎫ not divisible by
200314 - even no, divisible by 2 ⎬ 9
So, 200314 is not divisible by 9.

6) i) 324 = Sum of their digits =
3 + 2 + 4 = 9 is divisible by 3   } divisible by
32④ ⑧ = even no is divisible by 2 }   6
So, 324 is divisible by 6.

ii) 2010 = Sum of their digits =
2 + 0 + 1 + 0 = 3 is divisible by 3 } divisible by 6
201⑩ = even no = divisible by 2 }
2010 is divisible by 6.

iii) ~~2891~~ 33278 = Sum of their digits =
3 + 3 + 2 + 7 + 8 = 23 not divisible by 3 } not divisible
3327⑧ = even no = divisible by 2   } by 6

iv) 15505 = Sum of their digits =
1 + 5 + 5 + 0 + 5 = 16, not divisible by 3 } not divisible
1550⑤ = odd no = not divisible by 2 } by 6
15505 is not divisible by 6.

7) i) 5080 =
508⓪ = divisible by 5
So 5080 is divisible by 5.

ii) 66666 =
6666⑥ = not divisible by 5
So, 66666 is not divisible by 5

iii) 755 =
75⑤ = divisible by 5
So 755 is divisible by 5.

iv) 9207 =
920⑦ = not divisible by 5
So, 9207 is not divisible by 5.

8. i) 9990 =

999⑩ = divisible by 10

So 9990 is divisible by 10.

ii) 0 =

0 = divisible by 10

So, 0 is divisible by 10.

iii) 847 =

84⑦ = not divisible by 10.

So 847 is not divisible by 10.

iv) 8976 =

897⑥ = not divisible by 10.

So 8976 is not divisible by 10.

9. i) 5918 =

Sum of odd places $\overset{\text{from the right side}}{=}$ 8 + 9 = 17

Sum of even places $\overset{\text{from the right side}}{=}$ 5 + 1 = - 6
_____
11

11 is divisible by 11 so

5918 is divisible by 11.

iv) 68717 =

Sum of its digits in the odd place from the right side = 7 + 7 + 6 = 20

Sum of its digits in the even place from the left side = 8 + 1 = - 9
_____
11

11 is divisible by 11.

So 68717 is divisible by 11.

iii.) 3882

Sum of its digits in the odd place from the right side =
8 + 2 = 10

Sum of its digits in the even place from the right side =
8 + 3 = 11

10 - 11 = -1

So 3882 is not divisible by 11.

iv.) 10857

Sum of its digits in the odd place from the right side =
7 + 8 + 1 = 16

Sum of its digits in the even place from the right side =
5 + 0 = 5

16 - 5 = 11

11 is divisible by 11.

So 10857 is divisible by 11

(10) i.) 960   ones place

= 96⓪, 0 is divisible by 5

The sum of its digits =
9 + 6 + 0 = 15, divisible by 3

} divisible by 15

So 960 is divisible by 15.

ii.) 8295

= 829⑤, 5 in ones place is divisible by 5

The sum of its digits =
8 + 2 + 9 + 5 = 24 is ~~not~~ divisible by 3

} ~~not~~ divisible by 15

8295 is divisible by 15.

iii) 10243

1023③ 3 is not divisible by 5 ⎤
The sum of its digits =   ⎥ — not divisible
1+0+2+4+3 = 10 not divisible by 3 ⎦   by 15
10243 is not divisible by 15.

iv) 5013

501③ 3 is not divisible by 5 ⎤
The sum of its digits =   ⎥ — not divisible by 15
5+0+1+3 = 9 is divisible by 3 ⎦
5013 is not divisible by 15.

(II) i) 64 M3 =
6+4+3 = 13
M = 2
13+2 = 15
So 6423

ii) 46 M 46
4+6+4+6 = 20
M = 1
20+1 = 21
So 46146

iii) 27 M53
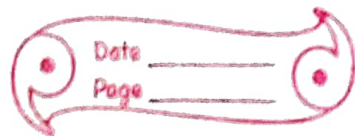2+7+5+3 = 17
M = 1
17+1 = 18
So 27153

⑫ i) 76M91

$= 7+6+9+1 = 23$

$M = 4$

$23 + 4 = 27$

So, 76491

ii) 77548M

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

$M = 25$

$31 + 05 = 36$

So, 775485

iii) 627M9

$= 6+2+7+9 = 24$

$24 + 3 = 27$

$M = 3$

So, $627M9 = 62739$

(13) i) 39M2

Sum of the digits in the odd places from the right side = $2 + 9 = 11$

Sum of the digits in the even places from the right side = $M + 3$

Difference = $11 - (M+3)$

$M = 8$

So $39M2 = 3982$

ii) 3M422

Sum of the digits in the odd places from the right side = $2 + 4 + 3 = 9$

Sum of the digits in the even places from the right side = $M + 2$

Difference = $9 - 2(M+2)$

$M = 7$

So, $3M422 = 37422$

iii) 70975M

Sum of the digits in the even place from the right side = $5 + 9 + 7 = 21$

Sum of the digits in the odd place from the right side = $M + 7 + 0 = M + 7$

Difference = $21 - 7(M+7)$

$M = 14$

So $70975M = 7097514$

iv.) 14M75

The sum of the digits in the even place from the right side =
7+4=11

The sum of the digits in the odd place from the right side =
5+M+1 = M+6

Difference = 11-6(M+6)

$M=5$

So, 14M75 = 14575

(14) i) If a number is divisible by 4, it is divisible by 8. False

ii) If a number is factor of 16 and 24, it is a factor of 48. True

iii) If a number is divisible by 18, it is divisible by 3 and 6. True

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

—×—