Ex- 9cc'

1) i) 352

ans) 352 is divisible by 2 as it's unit digit is 2, which is an even number.

ii) 523

ans) 523 is not divisible by 2 as it's unit digit is 3, which is an odd number.

iii) 496

ans) 496 is divisible by 2 as it's unit digit is 6, which is an even number.

iv) 649

ans) 649 is not divisible by 2 as it's unit digit is 9, which is an odd number.

2) i) 222

ans) 222 is not divisible by 4 as it's last two digits ~~are~~ form 22, which is not divisible by 4.

ii) 532

ans) 532 is divisible by 4 as it's last two digits form 32 which is divisible by 4.
(32 ÷ 4 = 8)

iii) 678

ans) 678 is not divisible by 4 as it's last two digits form 78, which is not divisible by 4.

iv) 9232

ans) 9232 is not divisible by 4 as its last two digits form 32, which is divisible by 4. (32 ÷ 4 = 8)

3) i) 324

ans) 324 is not divisible by 8 as it's last three digits is not divisible by 8.

ii) 2536

ans) 2536 is divisible by 8 as it's last three digits is divisible by 8. 2536 ÷ 8 = 317.

iii) 92760

ans) 92760 is divisible by 8 as it's last three digit is divisible by 8. 760 ÷ 8 = 95

iv) 444320

ans) 444320 is divisible by 8 as it's last three digit is divisible by 8. 320 ÷ 8 = 40

4) i) 221

ans) For a number to be divisible by 3, sum of the digits must be divisible by 3. Sum of the digits = 2 + 2 + 1 = 5. Since 5 is not divisible by 3. Hence, 221 is not divisible by 3.

ii) 543

ans) For a number to be divisible by 3, sum of digits must be divisible by 3. Sum of digits = 5+4+3 = 12. Since, 12 is divisible by 3. Hence, 543 is divisible by 3.

ii) 28492

ans) For a number to be divisible by 3, sum of digits must be divisible by 3. Sum of digits = 2+8+4+9+2 = 25. Since 25 is not divisible by 3. Hence, 28492 is not divisible by 3.

iv) 92349

ans) For a number to be divisible by 3, sum of digits must be divisible by 3. Sum of digits = 9+2+3+4+9 = 27. Since 27 is divisible by 3. Hence, 92349 is divisible by 3.

5) i) 1332

ans) For a number to be divisible by 9, sum of digits must be divisible by 9. Sum of digits = 1+3+3+2 = 9. Since 9 is divisible by 9. Hence, 1332 is divisible by 9.

ii) 53247

ans) For a number to be divisible by 9, sum of digits must be divisible by 9. Sum of digits = 5+3+2+4+7 = 21. Since 21 is not divisible by 9. Hence, 53247 is not divisible by 9.

iii) 4968

ans) For a number to be divisible by 9, sum of digits must be divisible by 9. Sum of digits = 4+9+6+8 = 27. Since 27 is divisible by 9. Hence, 4968 is divisible by 9.

iv) 200314

ans) For a number to be divisible by 9, sum of digits must be divisible by 9. Sum of digits = 2+3+1+4 = 10. Since 10 is not divisible by 9. Hence, 200314 is not divisible by 9.

6) i) 324

ans) Sum of digits = 3+2+4 = 9, which is divisible by 3. Unit digit is 4, which is even. ∴ 324 is divisible by 6.

ii) 2010

ans) Sum of digits = 2+1 = 3, which is divisible by 3. Unit digit is 0. So, 2010 is divisible by 6.

iii) 33278

ans) Sum of digits = 3+3+2+7+8 = 23, which is not divisible by 3. So, 33278 is not divisible by 6.

iv) 15505

ans) Sum of digits = 1+5+5+5 = 16, which is not divisible by 3. Its unit digit is 5. So, 15505 is not divisible by 6.

7) i) 5080

ans) For a number to be divisible by 5, unit digits must be 0 or 5.
Here, unit digit is 0.
∴ 5080 is divisible by 5.

ii) 66666

ans) For a number to be divisible by 5, unit digits must be 0 or 5.
Here, unit digit is 6.
∴ 66666 is not divisible by 5.

iii) 755

ans) For a number to be divisible by 5, units digit must be 0 or 5.
Here, unit digit is 5.
∴ 755 is divisible by 5.

iv) 9207

ans) For a number to be divisible by 5, unit digit must be 0 or 5.
Here, unit digit is 7.
∴ 9207 is not divisible by 5.

8) 9990

ans) For a number to be divisible by 10, units digit must be 0.
Here, unit digit is 0.
∴ 9990 is divisible by 10.

ii) 0

ans) For a number to be divisible by 10, unit digit must be 0.
Here, unit digit is 0.
∴ 0 is divisible by 10.

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8) ii) 847
ans) For a number to be divisible by 10 the unit digit must be 0. Here unit digit is 7. Hence, 847 is not divisible by 10.

iv) 8976
ans) For a number to be divisible by 10, the unit digit must be 0. Here unit digit is 6. Hence, 8976 is not divisible by 10.

9) i) 5918
ans) Sum of ~~even~~ odd digits = 5+1=6
Sum of even digits = 9+8=17
Their difference = 17-6 = 11
∴ 5918 is divisible by 11.

ii) 68717
ans) Sum of odd digits = 6+7+7=20
Sum of even digits = 8+1=9
Their difference = 20-9 = 11
∴ 68717 is divisible by 11.

iii) 3882
ans) Sum of odd digits = 3+8=11
Sum of even digits = 8+2=10
Their difference = 11-10=1
∴ 3882 is not divisible by 11

iv) 10857
ans) Sum of odd digits = 1+8+7=16
Sum of even digits = 5
Their difference = 16-5=11
∴ 10857 is divisible by 11.

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not divisible by
10.

t digit must be
ivisible by 10.

10) i) 960

ans) Sum of digits = 9+6+0=15. So, it is divisible by 3.
It's unit digit is 0. So, it is also divisible by 5.
So, it is divisible by 15.

ii) 8295

ans) Sum of digits = 8+2+9+5=24. So, it is divisible by 3.
It's unit digit is 5. So, it is also divisible by 5.
So, it is divisible by 15.

iii) 1023 1+0+2+4+3=10

ans) Sum of digits = ~~1+2+3=6~~. So, it is not divisible by 3.
It's unit digit is 3. So, it is not divisible by 5.
So, it is not divisible by 15.

iv) 5013

ans) Sum of digits = 5+0+1+3=9. So, it is divisible by 3.
It's unit digit is 3. So, it is not divisible by 5.
So, it is not divisible by 15.

11) i) 64 M3

ans) 6+4+M+3=13+M
The number that is divisible by 3 after 13 = 15
So, M = 15 − 13
= 2

∴ M = 2

ii) 46 M 46

ans) 4+6+M+4+6=20+M
The number that is divisible by 3 next to 20 = 21.
So, M = 21 − 20 = 1

∴ M = 1

iii) 27M53

ans) 2+7+M+5+3=17+M
The number that is divisible by 3 next to 17=18
So, M=18-17
=1
∴ M=1

2) i) 76M91

ans) 7+6+9+1+M=23+M
The number that is divisible by 9 next to 23=27
So, M=27-23
=4
∴ M=4

ii) 77548M

ans) 7+7+5+4+8=31+M
The number that is divisible by 9 next to 31=36
So, M=36-31
=5
∴ M=5

iii) 627M9

ans) 6+2+7+M+9=24+M
The number that is divisible by 9 next to 24=27
So, M=27-24
=3
∴ M=3

13) i) 39M2

ans) Sum of odd digits = 3+M

Sum of even digits = 9+2 = 11

Difference = 11 - (3+M)

11 - 3 - M = 0

= 8 - M = 0

∴ M = 8

ii) 3M422

ans) Sum of odd digits = 3+4+2 = 9

Sum of even digits = M+2

Difference = 9 - (2+M)

9 - 2 - M = 0

= 7 - M = 0

∴ M = 37

iii) 70975M

ans) Sum of odd digits = 7+9+5 = 21

Sum of even digits = 0+7+M = 7+M

Difference = 21 - (7+M)

~~21 - 7 - M = 0~~ ~~21 = 7 + M~~ 21 = (7+M)

~~= 14 - M~~ ~~So, M = 14~~ M = 14

Since, M cannot be two digit no. M = 14 - 11 = 3

iv) 14M75

ans) Sum of odd digits = 1+4+M+5 = 6+M

Sum of even digits = 4+7 = 11

Difference = 11 - (6+M)

11 - 6 - M = 0

= 5 - M = 0

∴ M = 5

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

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

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

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