Ex-9.C

Q1. Divisibility by 2

i) 352

ans:- A no. is divisible by 2, when the unit's place is an even no.

= 35(2)

The unit digit is 2 so 352 is divisible by 2.

ii) 523

ans:- 52(3)

The unit digit is 3 so 523 is not divisible by 2.

iii) 496

ans:- 49(6)

The unit digit is 6 so 496 is divisible by 2.

iv) 649

ans:- 64(9)

The unit digit is 9 so 649 is not divisible by 2.

Q2. Divisibility by 4

i) 222

ans:- A no. is divisible by 4, If the tens digit and unit's digit is divisible by 4.

= 2(22) there in 4th table

22 is not ~~divisible by 4~~ so 222 is not divisible by 4.

ii) 532

ans:- 5(32)

32 is there in 4th table so 532 is not divisible by 4.

iii) 678

ans:- 6(78)

78 is not there in 4th table so 678 is not divisible by 4.

iv) 9232

ans:- 92(32)

32 is these in 4th table so 9232 is not divisible by 4.

Q3: Divisibility by 8

i) 324

ans:- A no. is divisible by 8, if the hundreds, tens and units place is divisible by 8.

= (324)

The unit digits are 324 so 324 is not divisible by 8.

ii) 2536

ans:- 2(536)

The unit digits are 536 so 2536 is divisible by 8.

iii) 92760

ans:- 92(760)

The unit digits are 760 so 92760 is divisible by 8.

iv) 444320

ans:- 444(320)

The unit digits are 320 so 444320 is divisible by 8.

Q4: Divisibility by 3

i) 221

ans:- A no. is divisible by 3, if its sum of the digits are divisible by 3.

= 221

= 2+2+1 = 5

the sum of the digits are 5 so 221 is not divisible by 3.

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i) 543

ans- 543

= 5+4+3

= 12

The sum of the digits is 12 so 543 is divisible by 3.

ii) 28492

ans- 28492

= 2+8+4+9+2

= 25

The sum of the digits is 25 so 28492 is not divisible by 3.

iii) 92349

ans- 92349

= 9+2+3+4+9

= 28

The sum of the digits is 28 so 92349 is not divisible by 3.

Q5:- Divisibility by 9

i) 1332

ans- If no. is divisible by 9, if the sum of its digits are divisible by 9.

= 1332

= 1+3+3+2

= 9

The sum of the digits is 9 so 1332 is divisible by 9.

ii) 53247

ans- 53247

= 5+3+2+4+7

= 21

The sum of the digits is 21 so 53247 is not divisible by 9.

iii) 4968

ans:- 4968

= 4+9+6+8

= 27

The sum of the digits is 27 so 4968 is divisible by 9.

iv) 200314

ans:- 200314

= 2+0+0+3+1+4

= 10

The sum of the digits is 10 so 200314 is not divisible by 9.

Q6. Divisibility by 6

i) 324

ans:- A no. is divisible by 6, if the ~~digit~~ no's are divisible by 2 as well as 3.

= 324

= The no. is divisible by 2 because the unit digit is 4.

= 3+2+4=9

= The sum of the digits is 9 so its divisible by 3.

∴ 324 is divisible by 2 and 3 both so it is divisible by 6.

iii) 2010

ans:- 2010

= The no. is divisible by 2 because the unit digit is 0.

= 2+0+1+0=3

= The sum of the digits is 3 so it is divisible by 3.

2010 is divisible by 2 and 3 both so it is divisible by 6.

iii) 33278

ans:- 33278

The no. is divisible by 2 because the unit digit is 8.

$3+3+2+7+8 = 23$

The sum of the digits is 23. So it is not divisible by 3. So it is not divisible by 6.

(iv) 15505

ans:- 15505

= The no. is not divisible by 2.5 because the unit = place is 5.

= $1+5+5+0+5 = 16$

= The sum of the digits is 16.

= So it is not divisible by 3.

= So it is not divisible by 6.

Q7. Divisibility by 5

i) 5080

ans:- A no. is divisible by 5, if the unit digit is 0 or 5

= 5080

• There is 0 in units place so 5080 is divisible by 5

ii) 66666

ans:- 66666

There is 6 in units place so 66666 is not divisible by 5.

iii) 755

ans:- 755

There is 5 in units place so 755 is divisible by 5.

iv) 9207

ans:- 9207

There is 7 in units place so 9207 is not divisible by 5.

Q8: Divisibility by 10

i) 9990

ans:- A no. is divisible by 10 if there is 0 at units place.

= 9990

= There is 0 at units place so 9990 is divisible by 10.

ii) 0

ans:- 0

There is 0 at units place so 0 is divisible by 10.

iii) 847

ans:- 847

There is 7 at units place so 847 is not divisible by 10.

iv) 8976

ans:- 8976

There is 6 at units place so 8976 is not divisible by 10.

Q9: Divisibility by 11

i) 5918

ans:- A no. is divisible by 11, if the difference of the sum of its digits in odd places from the right side and the sum of its digits in even places from the right side is divisible by 11.

= $\overset{4\,3\,2\,1}{5\,9\,1\,8}$

= Sum of its digits in odd places from right side = $8+9=\overset{17}{17}$

= Sum of its digits in even places from right side = $1+5=6$

Difference of the two sums is $\overset{17}{11}-6=\overset{11}{5}$, so 5918 is divisible by 11.

ii) 68717

ns:- $\overset{5\,4\,3\,2\,1}{6\,8\,7\,1\,7}$

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= Sum of its digits in odd places from right side = 7+7+6 = 20
= Sum of its digits in even places from right side = 8+8 = 9

Difference of the two sums is 20-9 = 11, so 68717 is divisible by 11.

iii) 3882
4321
ans:- 3882
= Sum of its digits in odd place from right side = 2+8 = 10
= Sum of its digits in even place from right side = 8+3 = 11

Difference of the two sums is 11-10 = 1, so 3882 is not divisible by 11.

iv) 10857
54321
ans:- 10857
= Sum of its digits in odd place from right side = 7+8+1 = 16
= Sum of its digits in even place from right side = 5+0 = 5

Difference of the two sums is 16-5 = 11, so 10857 is divisible by 11.

Q10. Divisibility by 15

i) 960
ans:- A no. is divisible by 15, if it is divisible by both 3 and 5.

= 960
= 9+6+0 = 15
= The sum of the digits is 15, so it is divisible by 3.
= 960
= There is 0 in the unit's place, so 960 is divisible by 5.

960 is divisible by by 3 and 5, so 960 is divisible by 15.

ii) 8295

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ans:- 8295

= 8+2+9+5

= 24

= The sum of the digits is 24, so 8295 is not divisible by 3.

= 8295

= There is 5 in units place so 8295 is divisible by 5.

8295 is divisible by 5 but not by 3 so 8295 is not divisible by 15.

iii) 10243

ans:- 10243

= 1+0+2+4+3

= 10

= The sum of the digits is 10, so it is not divisible by 3.

= 10243

= There is 3 in units place, so 10243 is not divisible by 5.

10243 is not divisible by both 3 and 5, so 10243 is not divisible by 15.

iv) 5013

ans:- 5013

= 5+0+1+3

= 9

= The sum of the digits is 9, so 5013 is divisible by 3.

= 5013

= There is 3 in units place, so 5013 is not divisible by 5.

5013 is divisible by 3 but not by 5, so 5013 is not divisible by 15

Q11. Replace M by smallest whole no. to make the no. divisible by 3

i) 64M3

ans:- 6+4+3 = 13

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= 13 + M

= M = 2

= 13 + 2 = 15

So, 15 is divisible by 3.

ii) 46 M 46

ans:- 4+6+4+6 = 20

= 20 + M

= M = 1

= 20 + 1 = 21

So, 21 is divisible by 3.

iii) 27 M 53

ans:- 2+7+5+3 = 17

= 17 + M

= M = 1

= 17 + 1 = 18

So, 18 is divisible by 3.

Q12. Replace M by smallest whole no. to make the no. divisible by 9

i) 76 M 91

ans:- 7+6+9+1 = 23

= 23 + M

= M = 4

= 23 + 4 = 27

= So, 27 is divisible by 9

ii) 77548 M

ans:- 7+7+5+4+8 = 31

= 31+M

= ~~31+5=36~~ M=5

= 31+5=36

So, 36 is divisible by 9.

iii) 627M9

ans:- 6+2+7+9=24

= 24+M

= M=~~6~~ 3

= 24+3=27

So, 27 is divisible by 9.

Q13:- Replace M by smallest whole no. to make the no. divisible by 11

i) 39M2

ans:- 39M2

2+9	3+M
11	

= 3+M=11

= M=11-3=8

So, the no. is 3982. And it is divisible by 11.

ii) 3M422

ans:- 3M422

2+4+3	2+M
9	

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= 2+M=9

= M=9-2=7

So, the no. is 37422. And it is divisible by 11

iii) 70975 M

ans:- 709753M

7+M+0	5+9+7
7+M	21

= 7+M=21

= M=21-7=14

~~So, the no. is~~ Since, M cannot be a 2-digit no. so we have to substract 11 from 14

= 14-11=3

So, the no. is 709753

iv) 14M75

ans:- 14M75

5+M+1	7+4
6+M	11

= 6+M=11

= M=11-6=5

So, the no. is 14575.

Q14: TIF

Ai) False

Aii) True

Aiii) True

Aiv) True