Ex 9 C

1) i) 352

Ans→ 352 is divisible by 2.

ii) 523

Ans→ 523 is not divisible by 2.

iii) 496

Ans→ 496 is divisible by 2.

iv) 649

Ans→ 649 is not divisible by 2.

2) i) 222

Ans→ 222 is not divisible by 4.

ii) 532

Ans→ 532 is divisible by 4.

iii) 678

Ans→ 678 is not divisible by 4.

iv) 9232

Ans→ 9232 is divisible by 4.

4) i) 221

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Ans→ 2+2+1=5 and 5 is not divisible by 3, therefore, 221 is not divisible by 3.

ii) ~~2536~~ 543

Ans→ ~~5~~ 5+~~4~~+~~3~~ = 12 and ~~12~~ is ~~not~~ divisible by, therefore, ~~2536~~ 543 is not divisible by 3.

iii) ~~92760~~ 28492

Ans→ ~~9~~ 2+~~2~~ 8+~~7~~ 4+~~6~~ 9+~~0~~ 2 = 25 and 25 is not divisible by 3, therefore ~~92760~~ 28492 is divisible by 3.

iv) 92349

Ans→ 9+2+3+4+9 = 27 and 27 is divisible by 3, therefore 92349 is divisible by 3.

5) i) 1332

Ans→ 1+3+3+2 = 9 and 9 is divisible by 9, Therefore 1332 is divisible by 9.

ii) 53247

Ans→ 5+3+2+4+7 = 21 and 21 is not divisible by 9,

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Therefore, 21 is not divisible by 9 so, 53247 is not divisible by 21.

iii) 4968

Ans→ 4+9+6+8=27 and 27 is divisible by 9, Therefore, 4968 is divisible by 9.

iv) 200314

Ans→ 2+0+0+3+1+4=10 and 10 is not divisible by 9 and Therefore, 200314 is not divisible by 9.

6) i) 324

Ans→ 324 is divisible by 2 as the unit's place is even and 3+2+4=9 and 9 is divisible by 3, Therefore, 324 is divisible by 6.

ii) 2010

Ans→ 2010 is divisible by 2 as the unit's place is even and 2+0+1+0=3 and 3 is divisible by 3, Therefore, 2010 is divisible by 6.

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iii) 33278

Ans→ 33278 is divisible by 8 as 8 is divisible by 2 and 3+3+2+7+8 = 23 and 23 is not divisible by 3. Therefore 33278 is not divisible by 6.

iv) 15505

Ans→ 15505 is not divisible by 2 as 5 is not divisible by 2 and 1+5+5+0+5 = 16 and 16 is not divisible by 3 Therefore, 15505 is not divisible by 6 as 15505 is not divisible by both 2 and 3.

7) Find which of the following numbers are divisible by 5:

Ans→ i) 5080

Ans→ 5080 is divisible by 5 as the unit's place is 0. And 0 is divisible by 5, Therefore, the number 5080 is divisible by 5.

ii) 66666

Ans→ 66666 is not not divisible by 5 as the unit's place

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is 6 and 6 is not divisible by 5.

iii) 755

Ans→ 755 is divisible by 5 as the unit's place is 5 and 5 is divisible by 5.

iv) 9207

Ans→ 9207 is not divisible by 7 as the number 7 is not divisible by 7 ~~is not~~ Therefore, the whole number is not divisible by 5.

8) Find which of the following numbers are divisible by 10:

i) 9990

Ans→ 9990 is divisible by 10 as the unit's place is 0 and the number 0 is completely divisible by 10. Therefore, the whole number 9990 is completely divisible by the number 10.

ii) 0

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Ans→ The number 0 is divisible by 10 as 0 is divisible by 10.

iii) 847

Ans→ The number 847 is not divisible by 10 as in the unit's place there is 7 and 7 is not divisible by 10. Therefore, the whole number 847 is not divisible by 10.

iv) 8976

Ans→ The number 8976 is not divisible by 10 as in the unit's place there is 6 and 6 is not divisible by 10. Therefore, the whole number 8976 is not divisible by 10.

3) Find the number which of the following are divisible by 8:

i) 324

Ans→ 324 is not divisible by 8 as when we divide

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324 with 8, it is not exactly divisible by the number 8.

ii) 2536

Ans→ 2536 is divisible by 8 as the hundred's place, ten's place and one's place are divisible by 8. Therefore, the whole number 2536 is exactly divisible by the number 8.

iii) 92760

Ans→ 92760 is divisible by 8 as the hundred's place, ten's place and one's place are divisible by 8. Therefore, the number 92760 is exactly divisible by the number 8.

iv) 444320

Ans→ 444320 is divisible by 8 as the hundred's place, ten's place and one's place are divisible by 8. Therefore, the whole number 444320 is divisible by

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the number 8.

9) Find which of the following numbers are divisible by 11:

i) 5918

Ans→ 5 (9) 1 (8), The number's in odd place are 9 and 8. The numbers in even place are 5 and 1. The sum of the numbers in odd place = 9+8 = 17. The sum of the numbers in even place are 5+1 = 6. The difference of two places = 17-6 = 11. Hence, the number is clearly divisible by 11. Therefore, the whole number is divisible by 11.

ii) 68,717

Ans→ The number's in odd places are 7, 7 and 6. The numbers in even place's are 1 and 8. The sum of the numbers in odd places = 7+7+6 = 20. The sum of the number's in even place are 1+8 = 9. The difference of two places = 20-9 = 11. Therefore, 68717 is divisible by 11 clearly.

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iii) 3882

Ans→ 3 (8) 8 (2). The numbers in odd places are 8 and 2. The numbers in even places are 3 and 8. The sum of the odd places = 8+2 = 10. The sum of the even places are 8+3 = 11. The difference between the two places are 10-11 = -1. Therefore, 3882 is not divisible by 11.

iv) 10857

Ans→ (1) 0 (8) 5 (7), The numbers in odd places are 1, 8 and 7. The numbers in even places are 0 and 5. The sum of the odd places = 1+8+7 = 16. The sum of the even places are 0+5 = 5. The difference between two places are 16-5 = 11. Therefore, 10857 is divisible by 11 as 11 is divisible by 11.

A number is divisible by 15 if it is divisible by both 3 and 5.

10) Find which of the following numbers are divisible by 15:

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i) 960

Ans → 960 = 9+6+0 = 15.

= 15 is divisible by 3.

= 960 is divisible by 5 as the unit's place is 0. And 0 is divisible by 5. = 960 is divisible by 5.

ii) 8295

Ans → = 8+2+9+5 = 24.

= 24 is divisible by 3.

= 8295 is divisible by 3.

= 8295 is divisible by 5.

= As the unit's place is 5, therefore, 8295 is divisible by 5.

= 8295 is divisible by 3 and 5, therefore, 8295 is divisible by 15.

iii) 10243

Ans → = 1+0+24+3 = 10

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= 10 is not divisible by 3.

= 10243 is not divisible by 3.

= 10243 is not divisible by 15 as 10243 is not divisible is not divisible by 15.

ii) 5013

Ans → = 5+0+1+3 = 9.

= 9 is divisible by 3.

= 5013 is divisible by 3.

= 5013 is not divisible by 5.

= As the unit's place is 3 and 3 is not divisible by 5.

= 5013 is not divisible by 15 as 5013 is not divisible by 5.

13) In each of the following numbers, replace M by the smallest whole number to make the resulting number divisible by 11.

i) 39M2

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Ans → = 3 (9) M (2)

= The numbers in odd places are 9 and 2.

= The numbers in even places are 3 and M.

= The sum of the odd places = 9+2 = 11.

= The sum of the numbers in even numbers = 3+M = 3.

= The difference between the two places

= 11 - 3 = 8

= 8 - M = 0.

= 8 - 8 = 0

= $\boxed{M = 8}$

= Therefore, the required number is 8.

= 3982

ii) 3M422

Ans → (3) M (4) 2 (2)

= The numbers in odd places = 3, 4 and 2.

= The numbers in even places = M and 2.

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= The sum of the ~~even~~ odd places = 3+4+2 = 9

= The sum of the even places = M-2 = 2

= The difference between the two places

= 7-2 = 7

= 7 ♦ M = 0

= 7 - 7 = 0

= M = 7

iii) 70975M

Ans 7 = 7 0 9 7 5

= The numbers in odd places = 7, 9 and 5.

= The numbers in even places = 0 and 7.

= The sum of the odd places = 7+9+5 = 21.

= The sum of the even places = 0+7 = 7.

= The difference of the two places =

= 21 - 7

= 14

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= 14 - M = 11

= 14 - 3 = 11

= M = 3

= Therefore, the required number is 3.

iv) 14M75

Ans → = (1) 4 (M) 7 (5)

= The ~~places~~ numbers in odd places = 1, M and 5.

= The numbers in even places = 4 and 7.

= The sum of the numbers in odd places = 1 + M + 5 = 6.

= The sum of the numbers in even places = 4 + 7 = 11.

= The difference of two places

= 6 - 11

= -5 + M = 0.

= -5 + 5 = 0

= M = 0

= Therefore, the required number is 5.

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11) In each of the following numbers, replace M by the smallest whole number to make the resulting number divisible by 3:

i) 64M3

Ans → = 6+4+M+3

= 13+M=15

= 13+2=15

= M=2

= Therefore, the required answer is 2. 6423

ii) 46M46

Ans → 4+6+M+4+6

= 20+M=21

= 20+1=21

= M=1

= Therefore, the required answer is 1.

= 46146

11 5

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iii) 27M53

Ans → = 2+7+M+5+3

= 17+M=21

= 17+4=21

= M=4

= Therefore, the required number is 4.

= 27453

12) In each of the following numbers, replace M by the smallest whole numbers resulting divisible by the number 9.

i) 76M91

Ans → = 7+6+M+9+1

= 23+M=27

= 23+4=27

= M=4

= Therefore, the required number is 4.

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= 76491

ii) 77548M

Ans:- ~~7 7 5 4 8 M~~

= ~~The numbers in odd places = M, 4 and 7.~~

= ~~The numbers in even places = 7, 5 and 7.~~

= 7+7+5+4+8+M

= 31+M=36

= 31+5=36

= $\boxed{M=5}$

= Therefore, the required number is 5.

= 77548 5

iii) 627M9

= 6+2+7+M+9

= 24+M=27

= 24+3=27

= $\boxed{M=3}$

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= Therefore, the required number is 3.

= 62739

14) State, True or false.

i) If a number is divisible by 4. It is divisible by 8.
True

ii) If a number is a factor of 16 and 24, It is a factor of 48. False

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

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

* Divisibility by 7 → you can double the last digit and subtract it from the of the number. The number should be divisible by 7 with no remainder.

* Divisibility by 10 → A number is divisible by 10 if the last digit or unit's place / one's place is zero. Then the

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number is divisible by 10.

* Divisibility by 8 → A number is divisible by 8 if the hundred's place, ten's place and unit's place is divisible by 8.

* Divisibility by 11 → A number is divisible by 11 if the sum of the odd places (like 1st place, 3rd place, 5th place, etc.) and the sum of the even places (like 2nd, 4th, 6th, 8th, etc.) are done first. Then the difference of the sum of both the numbers are divisible by 11. So, the whole number is divisible by 11.

* Divisibility by 15 → A number is divisible by 15 if the numbers are divisible by both the numbers 3 and 5.

Ans