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EXERCISE (9C)

1. Divisible by 2.
(i) 352 = 352 is divisible by 2 as in the ones digit it has the no. 2.
(ii) 523 = It is not divisible by 2 as ~~the~~ it in the one ~~do~~ place it has 3 which is an ~~odd~~ no.
(iii) 496 = It is ~~not~~ divisible by 2
(iv) 649 = It is not divisible by 2

2. Divisible by 4.
(i) 222 = 222 is not divisible by 4 as the last two digits that is 22 is not divisible by 4.

(ii) 532 = 532 is ~~not~~ divisible by 4 as the last two digits that is 32 is divisible by 4.

(iii) 678 = 678 is not divisible by 4 as the last two digits is are not divisible by 4.

(iv) 9232 = 9232 is divisible by 4 as the last two digits that are 32 is divisible by 4.

3. Divisible by 8.
(i) 329 = 324 is not divisible by 8.

(ii) 2536 = ~~2536~~ 2536 is ~~not~~ divisible by 8 as the last three digits that is 536 is divisible by 8.

(iii) 92760 = 92760 is divisible by 8 as the last ~~three~~ three digits that is 760 is divisible by 8.

(iv) 444320 = 444320 is not divisible by 8 as the last 3 digits

that is 320 is divisible by 8.

4. Divisible by 3.

(i) 221 = 221 is not divisible by 3 as 2+2+1 = 5 which is not divisible by 3.

(ii) 532 = 532 is not divisible by 3 as 5+3+2 = 10 which is not divisible by 3.

(iii) 28492 = 28492 is not divisible by 3 as 2+8+4+9+2 = 25 which is not divisible by 3.

(iv) 92349 = 92349 is ~~not~~ divisible by 3 as 9+2+3+4+9 = 27 which is divisible by 3.

5. Divisible by 9.

(i) 1332 = 1332 is divisible by 9 as 1+3+3+2 = 9 which is divisible by 9.

(ii) 53247 = 53247 is not divisible by 9 as 53247 = 21 which is divisible by 9.

(iii) 4968 = 4968 is divisible by 9 as 4+9+6+8 = 27 which is divisible by 9.

(iv) 200314 = 200314 is not divisible by 9 as 2+3+1+4 = 10 which is not divisible by 9.

6. Divisible by 6.

(i) 324 = 324 is divisible by 2 and 3, hence is divisible by 6.

(ii) 2010 = It is divisible by 2 and 3, hence is divisible by 6.

(iii) 33278 = It is divisible by 2 but not by 3, hence it is not divisible by 6.

(iv) 19505 = It is not divisible by 2 and 3, hence it is not divisible by 6.

7. Divisible by 5:

(i) 5080 = 5080 is divisible by 5 as one place has 0.

(ii) 66666 = 66666 is not divisible by 5 as one's place don't have 0/5.

(iii) 755 = 755 is divisible by 5 as one's place has 5.

(iv) 9207 = 9207 is not divisible by 5 as one's place don't have 0/5.

8. Divisible by 10:

(i) 9990 = 9990 is divisible by 10 as it has 0 in the ones place.

(ii) 0 = 0 is dibisible by 10

(iii) 847 = 847 is not divisible by 10 as it does not have 0 in the ones place.

(iv) 8976 = 8976 is not divisible by 10 as it don't have 0 in the ones place.

9. Divisible by 11:

(i) 5918 = 5 + 1 = 6 17 − 6 = 11
9 + 8 = 17

∴ 5918 is divisible by 11.

(ii) 68,717 = 6 + 7 + 7 = 20 20 − 9 = 21
8 + 1 = 9

∴ 68,717 is not divisible by 11.

(iii) 3882 = 3 + 8 = 11 11 − 10 = 1
8 + 2 = 10

∴ 3882 is not divisible by 11.

(iv) 10857 = 1 + 8 + 7 = 16 16 − 5 = 11
5

∴ 10857 is ~~not~~ divisible by 11.

11. (i) 64M3
= 6 + 4 + 3 + M = 13 + M = ? + 13
= 13 + 2 = 15
2 is the smallest no. that makes the resulting no. divisible by 3.

(ii) 46M46
= 4 + 6 + 4 + 6 + M = 20 + M = ? + 20
= 20 + 1 = 21
1 is the smallest no. that makes the resulting no. divisible by 3.

(iii) 27M53 =

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

$= 17+1 = 18$

1 is the smallest no. that makes the resulting no. divisible by 3.

12. (i) 76M91 =

$76+6+9+1+M = 23+M = ?+23$

$= 23+4 = 27$

4 is the smallest no. that makes the resulting no. divisible by 9.

(ii) 7758M =

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

$= 31+5 = 36$

5 is the smallest no. that makes the resulting no. divisible by 9.

(iii) 627M9 =

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

$= 24+3 = 27$

3 is the smallest no. that makes the resulting no. divisible by 9.

14. (i) If a no. is divisible by 4. It is divisible by 8. (F)
(ii) If a no. is a factor of 16 & 24, it is a factor of 48. (T)
(iii) If a no. is divisible by 18, it is divisible by 3 & 6. (T)
(iv) If a^{th} divides both b and c completely, then a divides (i) a+b (ii) a-b also completely. (T)

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12. Divisibility by 15.

(i) 960 = 960 is divisible by 15 as it is divisible by 3 and 5.

(ii) 8295 = 8295 is divisible by 15 as it is divisible by 3 and 5 both.

(iii) 10243 = 10243 is not divisible by 15 as it is not divisible by 3 nor 5.

(iv) 5013 = 5013 is not divisible by 15 as it is divisible by 3 but not with 5.

13. (i) 3(9)M(2)

Sum of odd place digit = 2+9 = 11
Sum of even place digit = 3+M

11 − (3+M) = 11 − 3 − M = 8 − M
8 − M = 0
M = 8

So the required no. is 3982.

(ii) (3)M(9)2(2)

Sum of odd place digit = 3+4+2 = 9
Sum of even place digit = 2+M
9 − (2+M) = 9 − 2 − M = 7 − M
7 − M = 0
M = 7

ANS: 37422

(iii) 7 0 9 7 5 M

Sum of the odd place digit = 7+9+5 = 21
Sum of the even place digit = 0+7+M = 7+M
21-(7+M) = 21-7-M = 14-M
14-M = 11
M = 3

ANS: 70975~~M~~3

(iv) ~~1 M 7 5~~ 1 9 M 7 5

Sum of the even digits = 4+7 = 11
Sum of the odd digits = 1+M+5 = 6+M
11-(6+M) = 11-6-M = 5-M
5-M = 0
M = 5

ANS: 14975