

NUMBER SYSTEM | PART-7

SSC, CDS

1. $\frac{1}{300}$ written as a recurring decimal is —

$\frac{1}{300}$ आवर्ती दशमलव के रूप में लिखा जाता है—

- (A) $0.0\bar{3}$ (B) $0.00\bar{3}$
(C) $0.000\bar{3}$ (D) $0.\bar{3}$

2. The recurring decimal representation $1.272727\dots$ is equivalent to —

आवर्ती दशमलव निरूपण $1.272727\dots$ किसके समतुल्य है ?

- (A) $\frac{13}{11}$ (B) $\frac{14}{11}$
(C) $\frac{127}{99}$ (D) $\frac{137}{99}$

3. $0.000\bar{9}$ is equal to —

$0.000\bar{9}$ का मान किसके बराबर है —

- (A) $\frac{1}{1234}$ (B) $\frac{2}{9999}$
(C) $\frac{1}{1111}$ (D) $\frac{7}{9999}$

4. Represent $2.35\bar{2}$ in the form of $\frac{p}{q}$ —

$2.35\bar{2}$ को $\frac{p}{q}$ के रूप में लिखो —

- (A) $\frac{2127}{900}$ (B) $\frac{2117}{900}$
(C) $\frac{2107}{900}$ (D) $\frac{2217}{900}$

5. Arrange in descending order —

निम्नलिखित को घटते हुए क्रम में व्यवस्थित करो —

$0.9, 0.\bar{9}, 0.0\bar{9}, 0.00\bar{9}$

- (A) $0.\bar{9} > 0.9 > 0.0\bar{9} > 0.00\bar{9}$
(B) $0.0\bar{9} > 0.\bar{9} > 0.9 > 0.00\bar{9}$
(C) $0.0\bar{9} > 0.00\bar{9} > 0.9 > 0.\bar{9}$
(D) $0.9 > 0.0\bar{9} > 0.00\bar{9} > 0.9$

6. Find the value of $6.\bar{74} + 7.\bar{32}$ —

$6.\bar{74} + 7.\bar{32}$ का मान बताओ —

- (A) $14.\bar{06}$ (B) $14.\bar{07}$
(C) $13.\bar{06}$ (D) $13.\bar{07}$

7. Find the value of $2.\bar{7} - 1.\bar{3}$ —

$2.\bar{7} - 1.\bar{3}$ का मान बताओ —

- (A) $1.\bar{2}$ (B) $1.\bar{4}$
(C) $1.\bar{7}$ (D) $1.\bar{9}$

[UPSC 2020]

8. The value of x in the below equation is —

दिये गये समीकरण में x का मान ज्ञात करो —

[SSC CPO 2016]

$$0.\bar{3} + 0.\bar{6} + 0.\bar{7} + 0.\bar{8} = x$$

- (A) $5.\bar{3}$ (B) $2.3\bar{5}$
(C) $2\frac{2}{3}$ (D) $2\frac{3}{10}$

9. The value of $11.\bar{4} + 22.5\bar{67} - 33.5\bar{9}$ —

$11.\bar{4} + 22.5\bar{67} - 33.5\bar{9}$ का मान बताओ —

[SSC 2020 Mains]

- (A) $40.\bar{12}$ (B) $4.\bar{12}$
(C) $0.4\bar{12}$ (D) $0.04\bar{12}$

10. The value of $0.4\bar{6} + 0.7\bar{23} - 0.3\bar{9} \times 0.\bar{7}$ —

$0.4\bar{6} + 0.7\bar{23} - 0.3\bar{9} \times 0.\bar{7}$ का मान बताओ —

[SSC 2020 Mains]

- (A) $0.4\bar{6}$ (B) $0.\bar{77}$
(C) $0.5\bar{7}$ (D) $0.9\bar{7}$

11. The simplification of $\frac{1.\bar{3} \times 1.\bar{3} \times 1.\bar{3} - 1}{1.\bar{3} \times 1.\bar{3} \times 1.\bar{3} + 1}$ is —

$\frac{1.\bar{3} \times 1.\bar{3} \times 1.\bar{3} - 1}{1.\bar{3} \times 1.\bar{3} \times 1.\bar{3} + 1}$ का मान बताओ —

- (A) $\frac{1}{3}$ (B) $1\frac{1}{3}$
(C) $\frac{37}{91}$ (D) $\frac{27}{91}$

12. $2.\overline{142} = \frac{p}{q}$ then $p + q = ?$

$2.\overline{142} = \frac{p}{q}$ तब $p + q$ का मान बताओ ?

- (A) 1067 (B) 1038
(C) 1077 (D) 1037

13. $0.\overline{ab} + 0.\overline{ba} = \frac{5}{9}$ then $a + b = ?$

$0.\overline{ab} + 0.\overline{ba} = \frac{5}{9}$ तब $a + b = ?$

- (A) 5 (B) 6
(C) 7 (D) 8

14. If $0.\overline{xy} = \frac{7}{11}$, find $x^2 + y^2 = ?$

यदि $0.\overline{xy} = \frac{7}{11}$, तब $x^2 + y^2 = ?$

- (A) 36 (B) 44
(C) 45 (D) 55

15. If $0.\overline{xyz} + 0.5\overline{19} = \frac{13}{15}$ then $2x + 3y - 5z = ?$

यदि $0.\overline{xyz} + 0.5\overline{19} = \frac{13}{15}$ तब $2x + 3y - 5z = ?$

- (A) -18 (B) -19
(C) -20 (D) Not

16. $0.5\overline{6} - 0.7\overline{23} + 0.3\overline{9} \times 0.\overline{7} = ?$

- (A) $0.\overline{154}$ (B) $0.15\overline{4}$
(C) $0.1\overline{58}$ (D) $0.1\overline{58}$

17. Find the value of $0.4\overline{7} + 0.5\overline{03} - 0.3\overline{9} \times 0.\overline{8}$ —

$0.4\overline{7} + 0.5\overline{03} - 0.3\overline{9} \times 0.\overline{8}$ का मान बताओ —

- (A) $0.6\overline{15}$ (B) $0.61\overline{5}$
(C) $0.62\overline{5}$ (D) $0.62\overline{5}$

18. If $N = 0.369369369 \dots$

$M = 0.531531531 \dots$ then what is the

value $\frac{1}{N} + \frac{1}{M}$ —

यदि $N = 0.369369369 \dots$

$M = 0.531531531 \dots$ हैं, तो $\frac{1}{N} + \frac{1}{M}$ का मान ज्ञात

करो —

(A) $\frac{11100}{2419}$

(B) $\frac{111}{100}$

(C) $\frac{1897}{3162}$

(D) $\frac{2419}{11100}$

19. The value of $0.\overline{57} - 0.4\overline{32} + 0.3\overline{5}$ is :

$0.\overline{57} - 0.4\overline{32} + 0.3\overline{5}$ का मान ज्ञात करो —

[CGL Mains 2019]

(A) $0.49\overline{4}$

(B) $0.49\overline{8}$

(C) $0.49\overline{8}$

(D) $0.49\overline{4}$

Solution

1. (B)

2. (B) $1.272727\ldots = 1.\overline{27}$

$$1 + \frac{27}{99} = \frac{126}{99} = \frac{14}{11}$$

3. (C) $0.\overline{0009} = \frac{9}{9999} = \frac{1}{1111}$

4. (B) $2.35\overline{2} = 2 + \frac{352 - 35}{900} = \frac{2117}{900}$

5. (A) $0.\overline{9} = \frac{9}{9} = 1 = 0.9999 \dots$

$$0.\overline{09} = \frac{9}{90} = \frac{1}{10} = 0.0999 \dots$$

$$0.0\overline{9} = \frac{9}{99} = \frac{1}{11} = 0.090909 \dots$$

6. (B) $6 + 7 + 0.\overline{74} + 0.\overline{32}$

$$= 13 + \frac{74}{99} + \frac{32}{99}$$

$$= 13 + \frac{106}{99}$$

$$= 13 + 1 + \frac{7}{99} \Rightarrow 14.\overline{07}$$

7. (B) $2.\overline{7} = 2 + \frac{7}{9} = \frac{25}{9}$

$$1.\overline{3} = 1 + \frac{3}{9} = \frac{12}{9}$$

$$2.\overline{7} - 1.\overline{3} = \frac{25}{9} - \frac{12}{9} = \frac{13}{9} = 1 + \frac{4}{9} = 1.\overline{4}$$

8. (C) $0.\overline{3} + 0.\overline{6} + 0.\overline{7} + 0.\overline{8}$

$$= \frac{3}{9} + \frac{6}{9} + \frac{7}{9} + \frac{8}{9}$$

$$= \frac{24}{9} = \frac{8}{3}$$

$$\Rightarrow 2\frac{2}{3}$$

9. (C)

10. (A)

11. (C) $1.\overline{3} = 1 + \frac{3}{9} = 1 + \frac{1}{3} = \frac{4}{3}$

$$\frac{\left(\frac{4}{3}\right)^3 - 1}{\left(\frac{4}{3}\right)^3 + 1} = \frac{64 - 27}{64 + 27} = \frac{37}{91}$$

12. (D) $2.14\overline{2} = 2 + \frac{142 - 1}{990}$

$$= 2 + \frac{141}{990}$$

$$= \frac{1980 + 141}{990}$$

$$= \frac{2121}{990} = \frac{707}{330}$$

$$\therefore p + q = 707 + 330 = 1037$$

13. (A) $0.a\overline{b} + 0.b\overline{a} = \frac{ab - a}{90} + \frac{ba - b}{90} = \frac{5}{9}$

$$\Rightarrow \frac{10a + b - a}{90} + \frac{10b + a - b}{90} = \frac{5}{9}$$

$$\Rightarrow \frac{9a + b}{90} + \frac{a + 9b}{90} = \frac{5}{9}$$

$$\Rightarrow \frac{10a + 10b}{90} = \frac{5}{9}$$

$$\Rightarrow a + b = 5$$

14. (C) $\frac{xy}{99} = \frac{7}{11}$

$$xy = 63$$

$$x = 6, y = 3$$

$$x^2 + y^2 = 6^2 + 3^2 = 45$$

15. (D) $\frac{xyz - x}{990} + \frac{519 - 5}{990} = \frac{13}{15}$

$$\frac{xyz - x + 514}{990} = \frac{13}{15}$$

$$\frac{100x + 10y + z - x + 514}{990} = \frac{13}{15}$$

$$99x + 10y + z = 344$$

Only $x = 3$ possible which $10y + z$ form two digit no.

$$\therefore x = 3$$

$$10y + z = 47$$

$$y = 4, z = 7, x = 3$$

$$2x + 3y - 5z = 6 + 3 \times 4 - 5 \times 7 = -27$$

$$16. (B) \quad 0.3\bar{9} \times 0.\bar{7} = \frac{39-3}{90} \times \frac{7}{9}$$

$$= \frac{36}{90} \times \frac{7}{9} = \frac{28}{90}$$

$$= 0.3\bar{1}$$

$$\Rightarrow 0.5\bar{6} - 0.7\bar{2}3 + 0.3\bar{1}$$

x	x	x	x	x	x	x
0.5	6	6	6	6	6	6
0.3	1	1	1	1	1	1
0.7	2	3	2	3	2	2
0.1	5	4	5	4	5	5

$$= 0.15\bar{4}$$

$$17. (C) \quad 0.3\bar{9} \times 0.\bar{8} = \frac{39-3}{90} \times \frac{8}{9} = \frac{36}{90} \times \frac{8}{9}$$

$$= \frac{32}{90} = 0.3\bar{5}$$

$$\Rightarrow 0.4\bar{7} + 0.5\bar{0}3 - 0.3\bar{5}$$

x	x	x	x	x	x	x
+4	7	7	7	7	7	7
+5	0	3	0	3	0	0
-3	5	5	5	5	5	5

$$0.6 \quad 2 \quad 5 \quad 2 \quad 5 \quad 2$$

$$\Rightarrow 0.62\bar{5}$$

$$18. (A) \quad N = 0.\overline{369} = \frac{369}{999} = \frac{41}{111}$$

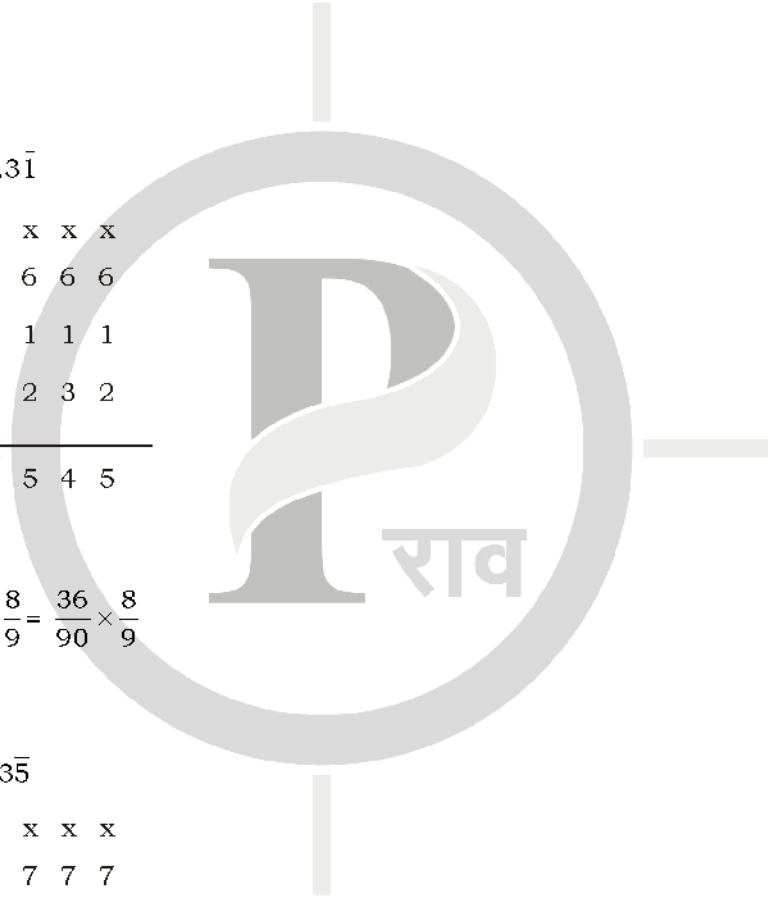
$$M = 0.\overline{531} = \frac{531}{999} = \frac{59}{111}$$

$$\frac{1}{N} + \frac{1}{M} = \frac{111}{41} + \frac{111}{59} = \frac{11100}{2419}$$

$$19. (C) \quad 0.\overline{57} - 0.4\bar{3}2 + 0.3\bar{5}$$

$$= \frac{57}{99} - \frac{432-4}{990} + \frac{35-3}{90}$$

$$= \frac{570 - 428 + 352}{990} = \frac{494}{990} = 0.49\bar{8}$$



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