

## NUMBER SYSTEM | PART-4

# SSC, CDS

1.  $1413 - 525 + 5123 = x + 4152$  find  $x = ?$

- (A) 7359 (B) 1829  
(C) 1849 (D) 1859

2.  $123 \times 52 - 17 + 52 \times 26 + 13 \times 11 = ?$

- (A) 6396 (B) 7874  
(C) 9274 (D) 7254

3.  $28.5 + 14.7 - 7.14 + 3.62 = ?$

- (A) 39.67 (B) 29.18  
(C) 39.68 (D) 39.58

4.  $\frac{1119943}{65879} + \frac{98565}{6571} = ?$

- (A) 42 (B) 52  
(C) 32 (D) 123

5.  $25\% \text{ of } 6932 + 30\% \text{ of } 7930 = ?$

- (A) 5112 (B) 4324  
(C) 4112 (D) 5154

6.  $(4408 \div 19) - 71\% \text{ of } x = 19$  find the value of  $x$ ?

- (A) 300 (B) 400  
(C) 450 (D) 325

7.  $(23.1)^2 + (48.6)^2 - (39.8)^2 = x + 1147.69$

Find  $x = ?$   $x$  का मान ज्ञात करो? **IBPS PO- 2011**

- (A)  $(13.6)^2$  (B) 12.8  
(C) 163.84 (D) 164.24

8. If  $N = (12345)^2 + 12345 + 12346$ , then what is the value of  $\sqrt{N}$

यदि  $N = (12345)^2 + 12345 + 12346$  है, तो  $\sqrt{N}$  का मान क्या है?

**SSC CGL Mains 2017**

- (A) 12346 (B) 12345  
(C) 12344 (D) 12347

9. If  $M = 0.1 + (0.1)^2 + (0.01)^2$  and  $N = (0.3) + (0.03)^2 + (0.003)^2$  then what is the value of  $M + N$ ?

यदि  $M = 0.1 + (0.1)^2 + (0.01)^2$  तथा  $N = (0.3) + (0.03)^2 + (0.003)^2$  हैं, तो  $M + N$  का मान क्या होगा?

**SSC CGL Mains 2017**

- (A) 0.411009 (B) 0.413131  
(C) 0.313131 (D) 0.131313

10. What is the sum of the digits of the number, when divided by 15, 18 and 24 leaves the same remainder 8 in each case and is also complete divisible by 13.

सबसे छोटी संख्या के अंकों का योग क्या होगा जिसे जब 15, 18 और 24 से विभाजित किया जाता है हर बार शेषफल 8 बचता है और B से पूर्णतः विभाजित होता है ?

**SSC CPO 2019**

- (A) 17 (B) 16  
(C) 15 (D) 18

**Answer with Explanation**

1. (D)  $1413 - 525 + 5123 = x + 4152$   
 $\downarrow \quad \downarrow \quad \downarrow$   
 $9/0 - 3 + 2 = x + 3$   
 $0 - 1 = x + 3$   
 $x = -4$   
 $\therefore$  digit sum of  $x = -4 + 9 = 5$

2. (B)  $123 \times 52 - 17 + 52 \times 26 + 13 \times 11$   
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $6 \times 7 - 8 + 7 \times 8 + 4 \times 2$   
 $\downarrow$   
 $6 - 8 + 2 + 8 = 8$  (DS)

Option :-

- (A)  $6396 = 6$
- (B)  $7874 = 8$
- (C)  $9774 = 4$
- (D)  $7254 = 9/0$

3. (C)  $28.5 + 14.7 - 7.14 + 3.62$   
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $6 + 3 - 3 + 2 = 8$

Only Option (C) have sum of digit = 8

4. (C)  $\frac{1119943}{65879} = \frac{1}{8} \times \frac{8}{8} = 8$  (DS)

$\frac{98565}{6571} = \frac{6}{1} = 6$  (DS)

$\Rightarrow 8 + 6 = 14 = 5$  (DS)

Only 32 has digit + sum = 5

5. (C)  $6932 + 25\% + 7930 \times 30\%$   
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $2 \times 7 + 1 \times 3$   
 $\downarrow \quad \downarrow$   
 $5 + 3 = 8$

Only option (C) has digit sum = 8

6. (A)  $4408 \div 19 - 71\% \text{ of } x = 19$

$\downarrow$

$7 + 1 - 8 \text{ of } x = 1$

$7 - 8 \times x = 1$

$8x = 6$

$x = \frac{6}{8} \times \frac{8}{8} = 48 = 3$  (DS)

Only option (A) whose digit sum is 3.

7. (C)  $(23.1)^2 + (48.6)^2 - (39.8)^2 = x + 1147.69$

$\Rightarrow 0 + 0 - 4 = x + 1$

$\Rightarrow x = -5$

$\Rightarrow x = -5 + 9 = 4$  (DS)

only option C has digit sum 4

8. (A)  $N = (6)^2 + 6 + 7 = 4$  (DS)

(A)  $(12346)^2 = 49 = 4$  (DS)

(B)  $(12345)^2 = 9$  (DS)

(C)  $(12344)^2 = 7$  (DS)

(D)  $(12347)^2 = 1$  (DS)

9. (A)  $M$  (DS) =  $1 + 1 + 1 = 3$

$N$  (DS) =  $3 + 9 + 9 = 3$

$\therefore [M + N]$  (DS) =  $3 + 3 = 6$

only option A =  $0.411009 = 6$  (DS)

10. (A) Number =  $\frac{18n+8}{9}$

$\therefore$  Remainder = 8

only option (A) which have DS =  $1 + 7 = 8$

NUMBER SYSTEM | PART-5

SSC, CDS

1. Convert  $(87)_{10}$  into binary number system?  
(87)<sub>10</sub> को बाइनरी पद्धति में बदलो ?  
(A) 1011010            (B) 1010111  
(C) 1001012            (D) 1111000
2. Convert  $(11111111)_2$  into decimal number system ?  
(11111111)<sub>2</sub> को दशमलव पद्धति में बदलो ?  
(A) 225                    (B) 226  
(C) 255                    (D) 322
3. Convert  $(1111111.1111)_2$  into decimal number system ?  
(1111111.1111)<sub>2</sub> को दशमलव पद्धति में बदलो ?  
(A) 120.0625            (B) 125.0625  
(C) 127.9375            (D) 121.0624
4. Convert  $(0.67)_{10}$  into binary number system upto 5 decimal number ?  
(0.67)<sub>10</sub> को दशमलव के पांच स्थानों तक बाइनरी संख्या पद्धति में बदलो ?  
(A) 11111                (B) 11001  
(C) 10101                (D) 00011
5.  $(25.325)_{10}$  Convert it into binary system ?  
(25.325)<sub>10</sub> को बाइनरी पद्धति में बदलो ?  
(A) 11001.010            (B) 11111.011  
(C) 11101.111            (D) 11100.001

MATHS With PAWAN RAO

**Answer with Explanation**

1. (B)

2	87	1
2	43	1
2	21	1
2	10	0
2	5	1
2	2	0
	1	

$(87)_{10} = 1010111$

2. (C)

1	1	1	1	1	1	1	1
$2^7$	$2^6$	$2^5$	$2^4$	$2^3$	$2^2$	$2^1$	$2^0$
128	64	32	16	8	4	2	1

= 255

3. (C)

1	1	1	1	1	1	1	1	1	1	1
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
$2^5$	$2^5$	$2^4$	$2^3$	$2^3$	$2^2$	$2^2$	$2^1$	$2^1$	$2^0$	$2^{-1}$

=  $64 + 32 + 16 + 8 + 4 + 2 + 1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}$

=  $(127.9375)_{10}$

4. (C)  $0.67 \times 2 = 1.34$     1  
 $0.34 \times 2 = 0.68$     0  
 $0.68 \times 2 = 1.36$     1  
 $0.36 \times 2 = 0.72$     0  
 $0.72 \times 2 = 1.44$     1  
 $\therefore (0.67)_{10} = (10101)_2$

5. (A)

2	25	1
2	12	0
2	6	0
2	3	1
2	1	

$0.325 \times 2 = 0.670$     0  
 $0.670 \times 2 = 1.340$     1  
 $0.340 \times 2 = 0.680$     0  
 So,  
 $(25.325)_{10} = (11001.010)$

6. (A)  $(12345)_8 =$

	1	2	3	4	5
	↓	↓	↓	↓	↓
	001	010	011	100	101

$\therefore (12345)_8 = (001010011100101)_2$