पिछले 13 वर्षों से TOPPERS की पहली CHOICE

7300+ लाल किताब

Edition-17th

SSC MATHEMATICS

7300+ CHAPTER-WISE | TYPE-WISE | EDUQUITY
Letest Patterns MCQ

English Medium

USEFUL FOR

SSC CGL, CPO SI, CONSTABLE, CHSL, STENOGRAPHER, MTS, IBPS PO, CLERK, SBI, RRB, DSSSB, STATE SSC, ASSISTANT EXAMS, LIC, GIC, NIACL, METRO & OTHER ONE-DAY COMPETITIVE EXAMS.

BASIC CONCEPT OF EACH QUESTION WITH DETAILED & *Smart Trick* VIDEO SOLUTION

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2026 – 27

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CONTENT

Square, Square Root & Cube, Cube Root

Chapter 01 7300+

TYPE – I

1. Solve $\left(\sqrt{5776}-\sqrt{7461}\right)\times\left(\frac{1}{2}\right)$

(a) 3.5 (b) 4.5 (c) 6.5 (d) 7.5

[SSC CGL Pre, 18 Sept. 2025, Shift-III]

2. Solve $\left(\sqrt{7921}-\sqrt{2070.25}\right)\times\left(\frac{1}{4}\right)$

(a) 10.875 (b) 8.875 (c) 7.785 (d) 6.685

[SSC CGL Pre, 25 Sept. 2025, Shift-II]

3. The square root of $\left(\frac{1}{4}\right)\times\left(\frac{1}{9}\right)\times\left(\frac{1}{25}\right)\times\left(\frac{1}{49}\right)\div\left(\frac{36}{121}\right)$

(a) $\frac{11}{12.60}$ (b) $\frac{1}{1260}$ (c) $\frac{11}{1260}$ (d) $\frac{1260}{11}$

[SSC CPO 2024]

4. If $N=(12345)^2+12345+12346$, then $\sqrt{N}$ = ?

(a) 12346 (b) 12345 (c) 12344 (d) 12347

[SSC CPO 2024]

5. What is the value of

$\sqrt{121}+\sqrt{12321}+\sqrt{1234321}+\sqrt{123454321}$?

(a) 12345 (b) 123456 (c) 12344 (d) 123454

[SSC CHSL 2023]

6. Find the value of

$$\frac{\sqrt{29.16}}{\sqrt{1.1664}}+\frac{\sqrt{0.2916}}{\sqrt{116.64}}+\frac{\sqrt{0.0036}}{\sqrt{0.36}}$$

(a) $\frac{101}{20}$ (b) $\frac{103}{20}$ (c) $\frac{26}{5}$ (d) $\frac{27}{5}$

[SSC CGL 2023]

7. Solve it

$\left(\sqrt{33.64}\div\sqrt{8.41}\times\sqrt{75.69}\div\sqrt{8.41}\right)+$

$\left(\sqrt{33.64}\div\sqrt{8.41}\times\sqrt{75.69}\div\sqrt{8.41}\right)$ = ?

(a) 19 (b) 12 (c) 17 (d) 15

[SSC CGL 2024]

8. Which of the following statement (s) is/are TRUE?

I. $\sqrt{121}+\sqrt{12321}+\sqrt{1234321}=1233$

II. $\sqrt{0.64}+\sqrt{64}+\sqrt{36}+\sqrt{0.36}>15$

(a) Only I (b) Only II

(c) Neither I nor II (d) Both I and II

[SSC CGL 2023]

9. Which of the following statement(s) is/are true

I. $\sqrt{(64)}+\sqrt{(0.0064)}+\sqrt{(0.81)}+\sqrt{(0.0081)}=9.07$

II. $\sqrt{(0.010201)}+\sqrt{(98.01)}+\sqrt{(0.25)}=11.51$

(a) Only I (b) Only II

(c) Both I and II (d) Neither I nor II

[SSC CHSL 2023]

10. The number, whose square is equal to the difference of the squares of 75.15 and 60.12, is

(a) 46.09 (b) 48.09 (c) 45.09 (d) 47.09

[SSC CGL 2022]

11. The number, whose square is equal to the difference between the squares of 975 and 585, is:

(a) 780 (b) 390 (c) 1560 (d) 130

[SSC CGL 2023]

TYPE – II

12. The number of digits in the integer part of the square root of 62478078 is:

(a) 4 (b) 5 (c) 6 (d) 3

[SSC CPO 2023]

13. The number of digits in the integer part of the square root of 625686734489 is:

(a) 4 (b) 5 (c) 6 (d) 7

[SSC CGL 2023]

14. The number of digits in the square root of a perfect square containing 2n digits is:

(a) n – 1 (b) n + 1 (c) 2n (d) n

[SELECTION POST PHASE-13 2025]

TYPE – III

15. A number is increased by 120, and the result becomes a perfect square. The original number lies between two consecutive square numbers, 625 and 676. Find the original number.

(a) 626 (b) 656 (c) 664 (d) 672

[SSC CGL Tier-I, 14 Oct 2025, Shift-II]

16. Each member of a club contributes as much rupees and as much paise as the number of members of the club. If the total contribution is Rs. 2525, then

the number of members of the club is:

(a) 60 (b) 45 (c) 55 (d) 50

[SSC CGL 2023]

17. Each member of a picnic party contributed twice as many rupees as the total number of members and the total collection was Rs. 3042. The number of members present in the party was:

(a) 2 (b) 32 (c) 40 (d) 39

[SSC CGL 2024]

18. A teacher wants to arrange his students in an equal number of rows and columns. If there are 1369 students, the number of students in the last row are

(a) 37 (b) 33 (c) 63 (d) 47

[SSC CPO 2023]

TYPE – IV

19. What is the square root of 99980001?

(a) 9999 (b) 99999 (c) 100000 (d) 100001

[SSC CHSL Tier-I, 24 Nov 2025, Shift-I]

20. What is the square root of 46656?

(a) 216 (b) 224 (c) 212 (d) 228

[SSC CHSL Tier-I, 21 Nov 2025, Shift-III]

21. $\sqrt{0.00004761}$ is equal to = ?

(a) 0.069 (b) 0.0069 (c) 0.00069 (d) 0.0609

[SSC CHSL 2023]

22. $\sqrt{\sqrt[3]{0.004096}}$ is equal to:-

(a) 4 (b) 0.4 (c) 0.04 (d) 0.004

[SSC CPO 2024]

23. The value of $\sqrt{10^{-6} \times 0.25}$?

(a) 0.0025 (b) 0.0005 (c) 0.25 (d) 0.50

[SSC CPO 2022]

TYPE –V

24. For what value of N, 270N will be a perfect square, where 270N is a 4 digit number?

(a) 1 (b) 6 (c) 4 (d) 9

[SSC CGL Tier -II- 2023]

25. For what value of X, 211X will be a perfect square?

(a) 4 (b) 5 (c) 6 (d) 9

[SSC CGL 2022 (Tier -II)]

TYPE – VI

26. Find the cube root of -13824

(a) 38 (b) 24 (c) -38 (d) -24

[SSC CPO 2024]

27. $\sqrt[3]{1-\frac{127}{343}}$ is equal to

(a) $\frac{5}{9}$ (b) $1-\frac{1}{7}$ (c) $\frac{4}{7}$ (d) $1-\frac{2}{7}$

[SSC CGL 2022 (Tier-II)]

28. Simplify $\sqrt[3]{-2197} \times \sqrt[3]{-125} \div \sqrt[3]{\frac{27}{512}}$

(a) $\frac{492}{7}$ (b) $\frac{520}{3}$ (c) $\frac{554}{7}$ (d) $\frac{571}{5}$

[SSC CPO 2023]

29. The value of $\frac{\sqrt[3]{-2744} \times \sqrt[3]{-216}}{\sqrt[3]{\frac{64}{729}}}$

(a) 164 (b) 152 (c) 189 (d) 156

[SSC CPO 2023]

30. The value of $\sqrt[3]{1372} \times \sqrt[3]{1458} \div \sqrt[3]{343}$

(a) 18 (b) 15 (c) 13 (d) 12

[SSC CHSL 2023]

TYPE – VII

31. $\frac{\sqrt[3]{6859}}{\sqrt[4]{1296}} \times \frac{3}{57} \times 42 = ?$

(a) 7 (b) –3 (c) 16 (d) 17

[SSC CGL 20/01/0225]

32. The value of $\left(\frac{15625}{49}\right)^{-\frac{3}{2}} \times \left(\frac{5}{7}\right)^{5} \div \sqrt[4]{(625)^{-3}}$

(a) $\frac{1}{237}$ (b) $\frac{1}{249}$ (c) $\frac{1}{245}$ (d) $\frac{1}{233}$

[SSC CGL – 2024]

33. What is the value of 'x' in the equation given below?

$(23^2 \times 4^2) \times \sqrt[3]{343} - \sqrt{289} \times \sqrt{729} = x \times 4$

(a) 687 (b) 813 (c) 839 (d) 731

[SSC CGL 2024]

34. If $A = \frac{\sqrt{0.0004} \times \sqrt[3]{0.000008}}{\sqrt[4]{16000} \times \sqrt[3]{125000} \times \sqrt[4]{810}}$ and

$B = = \frac{\sqrt[3]{0.729} \times \sqrt[4]{0.0016}}{\sqrt{0.16}}$, then what is A × B ?

(a) 6×10^{-8} (b) $\left(\frac{7}{4}\right) \times 10^{-8}$ (c) $\left(\frac{7}{4}\right) \times 10^{-7}$ (d) 7×10^{-7}

[SSC CGL 2023]

TYPE – VIII

35. What is the smallest number that should be added to 1235 to make it a perfect square?

(a) 61 (b) 71 (c) 81 (d) 9

[SSC CHSL Tier-I, 21 Nov 2025, Shift-I]

36. Which of the following is the least 6-digit number, which is a perfect square?
(a) 100489 (b) 100588
(c) 100688 (d) 100788
[SSC CGL Tier-I, 19 Sept 2025, Shift-II]

37. What is the largest four digit number which is a perfect square?
(a) 9704 (b) 9801 (c) 9901 (d) 9999
[SSC CGL 2022 (Tier-II)]

38. The greatest perfect square number of six digits is
(a) 999001 (b) 998001 (c) 998009 (d) 998101
[SSC CPO 2023]

39. The least number that must be subtracted from 63522 to make the result a perfect square is :
(a) 18 (b) 20 (c) 24 (d) 30
[SSC CHSL 2022]

40. The smallest whole number that is to be multiplied with 59535 to make a perfect square number is x. The sum of digits of that number x is?
(a) 6 (b) 5 (c) 7 (d) 9
[SSC CHSL 2022]

41. Let x be the least number which when subtracted from 10424 gives a perfect square number. What is the least number. by which x should be multiplied to get a perfect square.
(a) 3 (b) 2 (c) 6 (d) 5
[SSC CGL 2023]

42. Which smallest number must be added to 710 so that the sum is a perfect cube ?
(a) 29 (b) 19 (c) 11 (d) 21
[SSC CGL 2023]

43. The smallest natural number, by which 3000 must be divided to make the quotient a perfect cube, is:
(a) 3 (b) 4 (c) 5 (d) 6
[SSC CGL 2024]

TYPE – IX

44. How many perfect squares lie between 10,000 and 20,000 (inclusive)?
(a) 32 (b) 42 (c) 52 (d) 62
[SSC CHSL Tier-I, 17 Nov 2025, Shift-I]

45. The number of perfect square numbers between 50 and 1000 is ?
(a) 21 (b) 22 (c) 23 (d) 24
[SSC CHSL Tier-I, 20 Nov 2025, Shift-II]

46. How many natural numbers are there between 11^2 and 12^2?
(a) 20 (b) 21 (c) 22 (d) 23
[Selection Post Phase-13, 24 July, 2025 Shift-I]

47. How many non-square natural numbers lie between 52^2 and 51^2?
(a) 99 (b) 100 (c) 101 (d) 102
[Selection Post Phase-13, 29 August, 2025 Shift-II]

48. How many numbers are there from 2000 to 7000 which are both perfect squares and perfect cubes?
(a) 0 (b) 1 (c) 2 (d) 3
[SSC CGL 2023]

49. How many natural numbers are there between $\sqrt{261}$ and $\sqrt{45109}$
(a) 144 (b) 196 (c) 168 (d) 195
[SSC CGL 2024]

50. If $\sqrt[3]{N}$ lies between 6 and 7, where N is an integer then how many values N can take?
(a) 125 (b) 126 (c) 127 (d) 128
[SSC CGL 2025]

ANSWER–KEY

1.	(a)	6.	(b)	11.	(a)	16.	(d)	21.	(b)	26.	(d)	31.	(a)	36.	(a)	41.	(d)	46.	(c)
2.	(a)	7.	(b)	12.	(a)	17.	(d)	22.	(b)	27.	(b)	32.	(c)	37.	(b)	42.	(b)	47.	(b)
3.	(c)	8.	(d)	13.	(c)	18.	(a)	23.	(b)	28.	(b)	33.	(c)	38.	(b)	43.	(a)	48.	(b)
4.	(a)	9.	(a)	14.	(d)	19.	(a)	24.	(c)	29.	(c)	34.	(a)	39.	(a)	44.	(b)	49.	(b)
5.	(c)	10.	(c)	15.	(c)	20.	(a)	25.	(c)	30.	(a)	35.	(a)	40.	(a)	45.	(d)	50.	(b)

EXPLANATION

1. (a) $\left(\sqrt{76^2}-\sqrt{69^2}\right)\times\frac{1}{2}$

$=(76-69)\times\frac{1}{2}=\frac{7}{2}=3.5$

2. (a) $\left(\sqrt{89^2}-\sqrt{\left(\frac{91}{2}\right)^2}\right)\times\frac{1}{4}=\left(89-\frac{91}{2}\right)\times\frac{1}{4}$

$=\frac{178-91}{2}\times\frac{1}{4}=10.875$

3. (c) Square root of $\left(\frac{1}{4}\right)\times\left(\frac{1}{9}\right)\times\left(\frac{1}{25}\right)\times\left(\frac{1}{49}\right)\div\left(\frac{36}{121}\right)$

$=\sqrt{\frac{1}{4}\times\frac{1}{9}\times\frac{1}{49}\times\frac{121}{36}\times\frac{1}{25}}=\frac{1}{2}\times\frac{1}{3}\times\frac{1}{5}\times\frac{1}{7}\times\frac{11}{6}=\frac{11}{1260}$

4. (a) $N=(12345)^2+12345+12346$

$=12345\,(12345+1)+12346$

$=12346\,(12345+1)=(12346)(12346)$

$\sqrt{N}=12346$

EXAM APPROACH

$N=(12345)^2+12345+12346$, then $\sqrt{N}$

Let, $x=12345$

$x^2+x+x+1=(x+1)^2$

$\sqrt{N}=12345+1=12346$

5. (c) $\sqrt{121}+\sqrt{12321}+\sqrt{1234321}+\sqrt{123454321}$

$=11+111+1111+11111=12344$

6. (b) $\frac{\sqrt{29.16}}{\sqrt{1.1664}}+\frac{\sqrt{0.2916}}{\sqrt{116.64}}+\frac{\sqrt{0.0036}}{\sqrt{0.36}}=\frac{5.4}{1.08}+\frac{0.54}{10.8}+\frac{0.06}{0.6}$

$\because \sqrt{2916}=54,\ \sqrt{11664}=108,\ \sqrt{36}=6$

$=\frac{540}{108}+\frac{54}{1080}+\frac{6}{60}=5+\frac{1}{20}+\frac{1}{10}=\frac{103}{20}$

7. (b) $\left(\sqrt{33.64}\div\sqrt{8.41}\times\sqrt{75.69}\div\sqrt{8.41}\right)+$

$\left(\sqrt{33.64}\div\sqrt{8.41}\times\sqrt{75.69}\div\sqrt{8.41}\right)$

$=\left(\sqrt{4\times8.41}\div\sqrt{8.41}\times\sqrt{9\times8.41}\div\sqrt{8.41}\right)+$

$\left(\sqrt{4\times8.41}\div\sqrt{8.41}\times\sqrt{9\times8.41}\div\sqrt{8.41}\right)=6+6=12$

8. (d) (i) $\sqrt{121}+\sqrt{12321}+\sqrt{1234321}=1233$

$11+111+1111=1233$ (true)

(ii) $\sqrt{0.64}+\sqrt{64}+\sqrt{36}+\sqrt{0.36}>15$

$\frac{8}{10}+8+6+\frac{6}{10}=15.4>15$ (true)

Hence both statement are true.

9. (a) I. $\sqrt{64}+\sqrt{0.0064}+\sqrt{0.81}+\sqrt{0.0081}=9.07$

L.H.S $=8+0.08+.9+0.09=9.07=$ R.H.S

Hence, statement I is true.

II. $\sqrt{0.010201}+\sqrt{98.01}+\sqrt{0.25}=11.51$

L.H.S $=\sqrt{(0.101)^2}+\sqrt{(9.9)^2}+\sqrt{(0.5)^2}$

$=0.101+9.9+0.5=10.501\neq$ R.H.S

Statement II is not true.

10. (c) Let the number be $= x$

ATQ, $x^2=(75.15)^2-(60.12)^2$

$x^2=(75.15+60.12)(75.15-60.12)$

$x^2=135.27\times15.03$

$x^2=2033.1081\Rightarrow x=45.09$

EXAM APPROACH

Let the number be N

ATQ, $N=\sqrt{(75.15)^2-(60.12)^2}$

Go through from digit sum

$N=\sqrt{(9k_1)^2-(9k_2)^2}=9\times$ (something)

Hence the correct option will be that one whose DS (digit sum) is 9. Only option (c) satisfies.

11. (a) **ATQ,** $(975)^2-(585)^2$

From, $a^2-b^2=(a+b)(a-b)$

$(975+585)(975-585)\Rightarrow 1560\times390$

$608400=(780)^2$

So, the number is 780.

12. (a) Number of digits in $= 62478078 = 8$ (digit)

Note: For counting the digits of square root we

make pairs of two digits. Then the digits will be equal to number of pairs.

∴ Number of digits in its square root = 4

13. **(c)** ATQ, $\sqrt{6\,25\,68\,67\,34\,89} = 6$ (digit)

14. **(d)** If a number have 2n digits then its square root will have n digit.

15. **(c)** x + 120 = Perfect sqaure

x is lie between 625 and 676

$27^2 = 784$

Now

x + 120 = 784

x = 664

16. **(d)** Let the total member be x.

x member contribute ₹x and each member also contributes x paise.

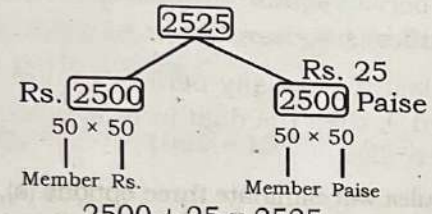
So, total Rupees = x member × ₹x = ₹x^2

$$x \text{ member } ₹\ x \text{ paise} = \frac{x.x}{100}$$

$$\text{Total amount} = x^2 + \frac{x^2}{100} = 2525$$

$$101x^2 = 2525 \times 100 \Rightarrow 101x^2 = 101 \times 25 \times 100 \Rightarrow x = 50$$

EXAM APPROACH



2500 + 25 = 2525

17. **(d)** Let the total member on picnic party = x

Each member contributed = $2x$

ATQ, $(2x)(x) = 3042 \Rightarrow 2x^2 = 3042$

$x^2 = 1521 \Rightarrow x = 39$

18. **(a)** Let the no. of students in a row be x

ATQ, $x \times x = 1369 \Rightarrow x^2 = 1369 \Rightarrow x = 37$

19. **(a)**

	9999
9	99980001
9	81
189	1898
9	1701
1989	19700
9	17901
19989	179901
9	179901
	0

20. **(a)**

	216
2	046656
+2	4
41	066
+1	41
426	2556
6	2556
	××××

Answer : 216

21. **(b)** $\sqrt{0.00004761} = \sqrt{\frac{4761}{100000000}} = \frac{69}{10000} = 0.0069$

22. **(b)** $\sqrt{\sqrt[3]{0.004096}} = \sqrt{0.16} = \sqrt{0.4 \times 0.4} = 0.4$

23. **(b)** $\sqrt{10^{-6} \times 0.25} = 10^{-3} \times 0.5 = \frac{0.5}{1000} = 0.0005$

24. **(c)** In this type of question to save your valuable time, go through the option.

$270\boxed{4} = 52^2 \rightarrow$ So, N = 4

EXAM APPROACH

If a perfect square number is divided by 8, then the remainder is 0, 1 and 4. (vice - versa is not correct)

When 270N is divided by 8, then out of the given options, only N = 4 satisfies the condition of remainder. Hence option (c) is correct.

25. **(c)** $211\boxed{6} = (46)^2 \rightarrow$ So, N = 6

26. **(d)** $\sqrt[3]{-13824} = \sqrt[3]{-24 \times (-24) \times (-24)} = -24$

EXAM APPROACH

The cube root of the number will be negative, so option (a) and option (b) are wrong.

Option (c) → $(-38)^3$ = ...2 (unit digit = 2) (×)

Option (d) → $(-24)^3$ = ...4 (unit digit = 4) (✓)

So option (d) will be correct.

27. **(b)** $\sqrt[3]{1 - \frac{127}{343}} = \sqrt[3]{\frac{343 - 127}{343}} = \sqrt[3]{\frac{216}{343}} = \frac{6}{7} = 1 - \frac{1}{7}$

28. **(b)** $\sqrt[3]{-2197} \times \sqrt[3]{-125} \div \sqrt[3]{\frac{27}{512}}$

$$= \sqrt[3]{13 \times 13 \times 13 \times -1} \times \sqrt[3]{5 \times 5 \times 5 \times -1} \div \sqrt[3]{\frac{27}{512}}$$

$$= \left(13 \times 5\sqrt[3]{-1 \times -1}\right) \div \frac{3}{8} = 13 \times 5 \times \frac{8}{3} = \frac{520}{3}$$

29. (c) $$\frac{\sqrt[3]{-2744}\times\sqrt[3]{-216}}{\sqrt[3]{\frac{64}{729}}}=\frac{\sqrt[3]{-14\times-14\times-14}\times\sqrt[3]{-6\times-6\times-6}}{\sqrt[3]{\frac{4\times4\times4}{9\times9\times9}}}$$

$$=\left(\frac{-14\times-6}{4}\right)\times9=189$$

EXAM APPROACH

Cube root of 729 = 9

9 will be flipped to numerator.

So answer will be multiple of 9.

Only option (c) satisfies.

30. (a) $\sqrt[3]{1372}\times\sqrt[3]{1458}\div\sqrt[3]{343}=\sqrt[3]{\frac{1372\times1458}{343}}$

$=\sqrt[3]{5832}=\sqrt[3]{18\times18\times18}=18$

31. (a) $\frac{\sqrt[3]{6859}}{\sqrt[4]{1296}}\times\frac{3}{57}\times42=\frac{19}{6}\times\frac{3}{57}\times42=7$

32. (c) $\left(\frac{5^6}{7^2}\right)^{-\frac{3}{2}}\times\left(\frac{5}{7}\right)^5\div\left(5^4\right)^{-\frac{3}{4}}$

$\frac{5^{-9}}{7^{-3}}\times\frac{5^8}{7^5}=\frac{5^{-1}}{7^2}=\frac{1}{5\times49}=\frac{1}{245}$

33. (c) $(23^2+4^2)\times\sqrt[3]{343}-\sqrt{289}\times\sqrt{729}=x\times4$

$545\times-17\times27=x\times4\Rightarrow3356=4x$

$\Rightarrow x=839$

34. (a) $A=\frac{\sqrt{0.0004}\times\sqrt[3]{0.000008}}{\sqrt[4]{16000}\times\sqrt[3]{125000}\times\sqrt[4]{810}}$

$=\frac{0.02\times0.02}{\sqrt[4]{16000\times810}\times\sqrt[3]{125000}}=\frac{0.02\times0.02}{20\times3\times50}$

$=\frac{1}{75\times10^5}$

$B=\frac{\sqrt[3]{0.729}\times\sqrt[4]{0.0016}}{\sqrt{0.16}}=\frac{0.9\times0.2}{0.4}=\frac{9}{20}$

$\therefore A\times B=\frac{1}{75\times10^5}\times\frac{9}{20}$

$=\frac{3}{25\times2}\times\frac{1}{10^6}=\frac{3}{5}\times\frac{1}{10^7}=\frac{3}{5}\times10^{-7}=6\times10^{-8}$

EXAM APPROACH

Solving the numerator of A, will not give 7

Solving the numerator of B, will not give 7

Now we can say that the numerator of A × B will also not give 7.

So only option (a) satisfies.

35.(a) 1235

Neart square No = 1296

Smallest Number = to add = 1296-1235 = 61

36.(a) We know tht the least 6 digit number is 100000

Now calculating the root of 100000

$\sqrt{10000}=316.23$

Now the next larger whole number after 316.2-3 is 317

Now taking square of 317

$(317)^2=100489$

So, the least six digit number which is a reflect square is 100489.

Hence the correct answer is 100489.

37. (b) Go through the option (b) $\rightarrow\sqrt{9801}=99$

EXAM APPROACH

- The last digit of any perfect square number cannot be 2, 3, 7 and 8.
- The D.S. (digit sum) of any perfect square number is 1, 4, 7 and 9.
- If any perfect square number is divided by 8, the remainder is 0, 1 and 4.
- If the last digit of any perfect square number is 1,4 and 9, then the digit in tens place should be an even digit.

All these rules will eliminate three options (a), (c) and (d).

38. (b) Six digit largest no. 999999

	999
9	99 99 99
+9	81
189	1899
+9	1701
1989	19899
+9	17901
	1998

Six digit largest square no.

$=999999-1998$

$=998001$

39. (a)

	252
2	63522
+2	4
45	235
+5	225
502	1022
+2	1004
	18

So, the number to be subtracted = 18

EXAM APPROACH

Solving by option

Option (A) → 63522 -18 = ... 4 (unit digit) (✓)
Option (B) → 63522 - 20 = ... 2 (unit digit) (×)
Option (C) → 63522 - 24 = ... 8 (unit digit) (×)
Option (D) → 63522- 30 = ... 2 (unit digit) (×)
Option (a) is correct.

40. **(a)** $59535 = 3 \times 5 \times \boxed{3 \times 3} \times \boxed{3 \times 3} \times \boxed{7 \times 7}$

To make a perfect square we should multiply by

$= 3 \times 5 = 15 \Rightarrow [x = \text{given}] \Rightarrow x = 15$

Sum of digits of number = 1 + 5 = 6

41. **(d)**

	102
1	10424
+ 1	1
202	0424
	0404
	20 → x = 20

$20 \times 5 = 100$ (Perfect square)

Smallest no. multiply for perfect square = 5

42. **(b)** As we know the cube of 9 is 729.

Therefore 19 must be added to 710 to make it a perfect cube.

43. **(a)** **ATQ,** $\frac{3000}{3} = 1000 = 10^3$

Note: In such type of question go through option to save your valuable time

44. **(b)** $\underset{(100)^2}{10,000}$ ——— $\underset{(141.4)^2}{20,000}$

Total No. 100+ 101 + ... + 141 = 42 Numbers

45. **(d)** $\underset{(7)^2}{50}$ ——— $\underset{\approx(31)^2}{1000}$

Total number : 8+9 + ... +31 = 24 Numbers .

46. **(c)** $12^2-11^2 = 23 \times 1 = 23$

Numbers between = 23-1 = 22

47. **(b)** $\underset{2500}{50^2}$ ——(non perfect square)—— $\underset{2601}{51^2}$

$51^2-50^2 = 101 - 1 = 100$

48. **(b)** $16^3 = 4096$ and $64^2 = 4096$

There is only one number from 2000 to 7000. which is perfect square and perfect cube.

49. **(b)** $\sqrt{261}$ and $\sqrt{45109}$

$\sqrt{261}$ is greater than (16) & less than (17)

$\sqrt{45109}$ is greater than(212) & Less than (213)

Number b/w $\sqrt{261}$ & $\sqrt{45109}$

=17, 18, 19 212

Required number → 212 –16 =196

50. **(b)** $6 < \sqrt[3]{N} < 7 \Rightarrow$ on cubing, $216 < N < 343$

$\sqrt[3]{216} < \sqrt[3]{N} < \sqrt[3]{343}$

217, 218, ... 342

No. of terms = (342 – 217) + 1 = 126

Chapter 02 7300+

Number System

TYPE – I

Rational and Irrational Numbers

1. Fill in the blank: Every real number is either rational or ____.
(a) Natural (b) Whole (c) Integer (d) Irrational
[Selection Post Phase-13, 28 July, 2025 Shift-I]

2. The union of rational and irrational numbers is equal to: **[SSC CPO- Pre, 10 Dec., 2025 Shift-II]**

Or

Rational numbers are a subset of:
[Selection Post Phase-13, 25 July, 2025 Shift-I]
(a) Real Numbers (b) Natural Numbers
(c) Complex Numbers (d) Whole Numbers

3. If we consider the set of rational numbers and the set of irrational numbers, what elements are present in both sets?
(a) Rational (b) Irrational
(c) Real (d) Empty set
[Selection Post Phase-13, 1 August, 2025 Shift-III]

4. The number of rational numbers between any two rational numbers is:-
[SSC CHSL Tier-I, 18 Nov 2025, Shift-I]

Or

The number of irrational numbers between 1 and 2 is : **[SSC CHSL Tier-I, 24Nov 2025, Shift-III]**
(a) 0 (b) 1 (c) Finte (d) Infinte

5. What type of number is the result of multiplying a Rational Number with an Irrational Number?
(a) Always Rational (b) Always Irrational
(c) Always Integer
(d) Sometimes Rational, Sometimes Irrational
[SSC CGL Pre, 20 Sept 2025, Shift-I]

6. The product of two rational numbers is always:
(a) Rational (b) Irrational (c) Natural (d) Integer
[SSC CHSL Tier-I, 24 Nov 2025, Shift-I]

7. Rational number + Irrational number = ?
(a) Rational number
(b) Irrational number
(c) Either Rational number or Irrational number
(d) Integer
[SSC CHSL Tier-I, 30 Nov 2025, Shift-III]

8. If x is irrational and y is irrational, then x + y is :
(a) Always irrational (b) Always rational
(c) Rational if x = -y (d) Never rational
[SSC CHSL Tier-I, 18 Nov 2025, Shift-III]

9. Match the sets in Column I with their correct descriptions in Column II.

Column I	Column II
A. Rational numbers (Q)	1. Closed under multiplication but not under subtraction
B. Whole numbers (W)	2. All teminating and recurring decimals
C. Natural number (N)	3. Include Zero and natural numbers
D. Irrational numbers (R-Q)	4. Non-repeating, non-terminating decimals.

Code:
(a) A-2, B-3, C-1, D-4 (b) A-4, B-2, C-1, D-3
(c) A-2, B-4, C-3, D-1 (d) A-3, B-2, C-4, D-10
[Selection Post Phase-13, 24 July, 2025 Shift-II]

10. in a quiz, a student was asked to find a number that is:
i) Irrtional
ii) Greater than 2 but less than 3
iii) Whose square is also irrational
Which of the following could be the number?
(a) $\sqrt{3}+1$ (b) $\sqrt{7}+1$ (c) 2.5 (d) $\sqrt{4.5}$
[SSC CHSL Tier-I, 25 Nov 2025, Shift-II]

TYPE – II

Classification of Numbers

11. What does each point on a number line represent?
(a) Natural number (b) Integer
c) Rational number (d) Real number
[Selection Post Phase-13, 1 August, 2025 Shift-II]

12. Which number is NOT real?
(a) $\sqrt{7}$ (b) $\sqrt{-7}$ (c) $\frac{1}{\sqrt{7}}$ (d) $-\sqrt{7}$
[SSC CHSL 18 Nov 2025 Shift -I]

13. Consider the number $\sqrt{(-16)}$. Which of the following statements is true about the above number?
(a) It is a real number and an integer.
(b) It is neither a real number nor a complex number.
(c) It is a real number but not an integer.
(d) It is not a real number but is a complex number.
[Selection Post Phase-13, 31 July, 2025 Shift-II]

14. Which of the following is true?
(a) All whole numbers are rational-
(b) All rational numbers are integers-
(c) All integers are irrational-
(d) No real number is rational-
[SELECTION POST PHASE-13 2025]

15. Among the following statements, the statement which is false:
(a) Every natural number is a real number
(b) Every real number is a rational number
(c) Every integer is a rational number
(d) Every natural number is an integer
[SSC CGL 2020]

16. Which of the following statements is true ?
(a) Every complex number can be expressed in the form of a real
(b) Every integer is a natural number.
(c) Every real number can be written in the complex form.
(d) Every real number is an integer.
[SSC CGL 2024]

17. If n is a natural number, then n (n + 1) (n + 2) (n + 3) + 1 is always:
(a) A perfect square (b) Not a perfect square
(c) A prime number (d) An even number
[SELECTION POST PHASE-13 2025]

18. Which set of numbers includes all others?
(a) Integers (b) Rational number
(c) Whole number (d) Real number
[SELECTION POST PHASE-13 2025]

19. Given below are two statements marked as Assertion (A) and Reason (R). Read and mark the correct options:
Assertion (A): The product of any two consecutive natural numbers is always even.
Reason (R): If n is any natural number, + then either norn 1 must be divisible by 2, ensuring the product is even,
(a) Both A and R are accurate, and R clearly justifies A.
(b) A is valid, R is valid but R is not directly explaining A.
(c) A holds R is inaccurate
(d) Neither A nor R hold true
[SELECTION POST PHASE-13 2025]

20. Which of the following relationship between the sets of integers, rational numbers, and real numbers holds good?
(a) $Q \subseteq Z \subseteq R$ (b) $R \subseteq Q \subseteq Z$
(c) $Z \subseteq R \subseteq Q$ (d) $Z \subseteq Q \subseteq R$
[SELECTION POST PHASE-13 2025]

21. Which of the following is a prime number?
(a) 161 (b) 171 (c) 193 (d) 177
[Selection post 2023]

22. How many prime numbers are there between 20 and 50?
(a) 8 (b) 5 (c) 6 (d) 7
[SSC CHSL 2023]

23. The sum of natural number and its square equals the product of the first three prime numbers. The number is:
(a) 2 (b) 3 (c) 5 (d) 6
[SSC CGL 2024]

24. The sum of three prime numbers is 90. If one of them is 30 more than the other, then which of the following will be one of them?
(a) 41 (b) 67 (c) 47 (d) 59
[SSC CGL 2022]

25. x, y and z are distinct prime numbers where $x < y < z$. If $x + y + z = 70$, then what is the value of z ?
(a) 29 (b) 31 (c) 37 (d) 43
[SSC CGL 2022 (Tier-II)]

26. Consider all prime numbers between 1 and 100. Which of the following statements is (are) correct?
(i) A number that is greater than 1 is multiple of 5 has a unit digit 3 or 6.
(ii) The sum of all numbers that are greater than 1 is multiple of 5 is 215.
(iii) The sum of all numbers which are greater than 1 is multiple of 5 and also greater than 1 is multiple of 6 is 92.
(a) Only II (b) I and II (c) I and III (d) II and III
[IB ACIO 2023]

27. Let ab ($a \neq b$) be a two-digit prime number such that ba is also a prime number. Find the sum of all such numbers.
(a) 374 (b) 407 (c) 418 (d) 396
[SSC CGL 2022(Tier II)]

28. Which of the following is not a pair of co-prime numbers?
(a) 22, 24 (b) 3, 7 (c) 1, 4 (d) 21, 22
[SSC CGL 2022]

29. If the sum of three consecutive composite numbers is 36. then what is the product of the three numbers?
(a) 1460 (b) 1750 (c) 1680 (d) 1820
[SSC CHSL .2023]

30. How many whole numbers lie between 11^2 and 12^2?
(a) 23 (b) 24 (c) 21 (d) 22
[SELECTION POST PHASE-13 2025]

31. The number of natural numbers between $\sqrt{50}$ and $\sqrt{500}$:
(a) 17 (b) 18 (c) 19 (d) 15
[SELECTION POST PHASE-13 2025]

32. If a and b are odd numbers, then which of the following is even?
(a) a + b + ab (b) a + b – 1
(c) a + b + 1 (d) a + b + 2ab
[SSC CHSL 2024]

33. A and B are positive integers. If A + B + AB = 65, then what is the difference between A and B (A, B ≤ 15)?
(a) 3 (b) 4 (c) 5 (d) 6
[SSC CGL 2021]

34. If the sum of five consecutive integers is S, then the largest of those integers in term of S is.
(a) $\frac{S-10}{4}$ (b) $\frac{S+10}{4}$ (c) $\frac{S+5}{4}$ (d) $\frac{S+10}{5}$
[SSC CHSL MAINS 2022]

35. The sum of three consecutive even numbers is 126. What is the product of the smallest and the largest numbers?
(a) 1840 (b) 1950 (c) 1760 (d) 1620
[SSC CHSL 2023]

36. The sum of five consecutive even numbers is 2720. Find the sum of the third and fifth numbers.
(a) 1392 (b) 1192 (c) 1092 (d) 1292
[SSC CHSL 2024]

37. The sum of five consecutive even numbers is 3720. What is the sum of the third largest number and the largest even number among them?
(a) 1492 (b) 1388 (c) 1488 (d) 1392
[SSC CPO 2024]

38. The sum of five consecutive even numbers is 36 more than that of four consecutive odd numbers. What is the sum of the largest even number and smallest odd number, if the smallest even number is 3 more than the smallest odd number?
(a) 47 (b) 43 (c) 39 (d) 37
[SSC CGL 2024]

39. The value of $14^2 + 87^2$ is the same as which of the following?
(a) $17^2 + 48^2$ (b) 41^2+78^2 (c) 18^2+47^2 (d) 81^2+74^2
[SSC CHSL Tier- I, 12 Nov. 2025, Shift-II]

40. Calculate the sum of the series : 1+2+3+....+ 40 +41 + 40 + ... + 3 + 2+1.
(a) 1531 (b) 1621 (c) 1618 (d) 1681
[SSC CHSL Tier- I, 20 Nov. 2025, Shift-II]

TYPE – III
Unit Digit

41. If the unit digit of 433×456×43N is (N+2), the what is the value of N?
(a) 1 (b) 8 (c) 3 (d) 6
[SSC CGL 2021]

42. The unit digit in the sum of $(124)^{372} + (124)^{373}$ is:
(a) 5 (b) 4 (c) 2 (d) 0
[SSC CHSL 2024]

43. If $x = (633)^{24} – (277)^{38} + (266)^{726}$. What is the unit digits of x?
(a) 8 (b) 6 (c) 4 (d) 7
[SSC CGL 2021]

44. Find the unit digit : $x = (433)^{24} – (377)^{38} + (166)^{54}$
(a) 9 (b) 6 (c) 8 (d) 7
[SSC CGL 2022]

45. If $x = (164)^{169} + (333)^{337} - (727)^{726}$, then what is the units digit of x?
(a) 5 (b) 7 (c) 8 (d) 9
[SSC CGL 2021 (Tier-II)]

46. What is the unit digit of $(217)^{413} \times (819)^{547} \times (414)^{624} \times (342)^{812}$
(a) 2 (b) 4 (c) 6 (d) 8
[SSC MTS 2020]

47. The digit in unit's place of the product $(2464)^{1793}\times(615)^{317} \times(131)^{491}$ is.
(a) 0 (b) 2 (c) 3 (d) 5
[SSC CGL 2024]

48. The remainder, when 731^{730} is divided by 9 is a. The number at the one's place of a^{332524}?
(a) 2 (b) 3 (c) 1 (d) 4
[SSC CGL MAINS 2022]

49. What is the unit digit of $1^5 + 2^5 + 3^5 +.....+ 20^5$
(a) 0 (b) 5 (c) 2 (d) 4
[SSC CHSL 2024]

50. Find out unit digit $15^{24^{32}} + 19^{64^{31}} + 26^{23^{31}} + 52! + 16^{3^{45}}$
(a) 0 (b) 5 (c) 7 (d) 8
[SSC CGL MAINS 2023]

51. If $N = 103^{1!+2!+...+15!} + 218^{1!+2!+.....23!} + 267^{1!+2!+.....57!}$, Then what is the unit digit of N.
(a) 2 (b) 3 (c) 8 (d) 5
[SSC CGL MAINS 2023]

52. Find the unit digit of
$1!^{1!} + 2!^{2!} + 3!^{3!} + 4!^{4!} + \ldots\ldots + 99!^{99!}$
(a) 1 (b) 6 (c) 7 (d) 4
[SSC CGL MAINS 2022]

53. If N = 1! + 2! + 3! + 4! +..... + 100! then find the unit digit of N^{N^N}
(a) 3 (b) 6 (c) 7 (d) 8
[SCC CGL MAINS 2023]

54. What are the last three digit of the muliplication 654321×123456?
(a) 376 (b) 344 (c) 324 (d) 352
[SCC CHSL 2023]

TYPE – IV

Number of Factors & Their Sum

55. The number of factors of 3600 is:
(a) 45 (b) 44 (c) 43 (d) 22
[SSC CGL 2021 (Tier-II)]

56. How many factors will the number 12288 have?
(a) 24 (b) 26 (c) 28 (d) 22
[SSC CGL 2023]

57. Find the number of factors in 52900.
(a) 33 (b) 27 (c) 31 (d) 29
[SSC CHSL 2024]

58. What is the total number of factors of the number 720 except 1 and the number itself?
(a) 29 (b) 27 (c) 32 (d) 28
[SSC CHSL 2023]

59. What is the total number of factors of the number 840 except 1 and the number itself?
(a) 29 (b) 30 (c) 28 (d) 31
[SSC CHSL 2023]

60. What is the sum of the two smallest natural numbers, each of the two having exactly seven factors?
(a) 843 (b) 736 (c) 625 (d) 793
[SSC CGL 2024]

61. If $847 \times 385 \times 675 \times 3025 = 3^a \times 5^b \times 7^c \times 11^d$, then the value of ab – cd is.
(a) 3 (b) 5 (c) 8 (d) 7
[SSC CGL MAINS (2022)]

62. Total number of factors of $71^3 - 40^3 - 31^3$
(a) 32 (b) 48 (c) 84 (d) 64
[SSC CGL MAINS 2024]

63. How many factors of $2^7 \times 3^4 \times 5^3 \times 7$ are even?
(a) 40 (b) 280 (c) 320 (d) 84
[Selection post 2023]

64. What are the total number of odd and even divisors of 120 respectively?
(a) 12, 4 (b) 16, 0 (c) 4, 12 (d) 8, 8
[SSC CHSL 2022]

65. The number of factors of 196 which are divisible by 4 is:
(a) 228 (b) 4 (c) 57 (d) 3
[SSC CPO 2022]

66. How many factors of the number $2^8 \times 3^6 \times 5^4 \times 10^5$ are multiple of 120 ?
(a) 660 (b) 792 (c) 540 (d) 594
[SSC CHSL MAINS 2022]

67. How many factors or 14,400 are divisible by 18 but not by 36?
(a) 3 (b) 2 (c) 5 (d) 4
[SSC CHSL 2024]

68. How many factors of $2^3 \times 3^3 \times 5^4 \times 7^2$ are divisible by 50 but not by 100?
(a) 42 (b) 40 (c) 36 (d) 38
[SSC CGL 2020]

69. How many factors of 1080 are perfect squares?
(a) 5 (b) 4 (c) 6 (d) 7
(SSC CHSL Pre 2022)

70. How many factors of the number 21600 are perfect squares ?
(a) 12 (b) 6 (c) 15 (d) 10
[SSC CPO 2023]

71. If $N = 9^9$ then N is divisible by how many positive perfect cubes?
(a) 6 (b) 7 (c) 4 (d) 5
[SSC CGL 2021 (Tier-II)]

72. The sum of the odd divisors of 216 is:
(a) 16 (b) 14 (c) 40 (d) 600
[SSC CPO 2022]

73. What is the sum of the divisors of 484 that are perfect squares?
(a) 125 (b) 35 (c) 610 (d) 13
[SSC CGL 2023]

74. How many integers in the set {1, 2, 3 .....100} have exactly 3 divisors?
(a) 2 (b) 8 (c) 6 (d) 4
[SSC CGL Tier- II, 19 Jan. 2026]

75. Let p, q, r and s be positive natural numbers with three exact factors consisting of 1 and the number itself. If q>P and both are two-digit numbers, and r>s and both are one digit numbers. Then value of the expression $\frac{p-q-1}{r-s}$ is.
(a) -S-1 (b) s-1 (c) 1-S (d) S+1
[SSC CGL Mains 2022]

76. Find the number of prime factors in the product $(30)^5 \times (24)^5$.
(a) 35 (b) 30 (c) 45 (d) 10
[SSC MTS 2023]

77. Find number of prime factors of $30^{16} \times 16^{18} \times 20^{21}$
(a) 182 (b) 183 (c) 180 (d) 181
[SSC CGL Pre -2021]

78. How many prime numbers are included in the factorization of $6^7 \times 35^3 \times 11^{10}$?
(a) 25 (b) 20 (c) 30 (d) 15
[SSC CHSL 2021]

79. If $N = 3^{14} + 3^{13} - 12$, then what is the largest prime factor of N?
(a) 11 (b) 79 (c) 13 (d) 73
[SSC CGL 2021]

80. The divisor of 17408, the smallest prime number is 2 ($17408 = 17 \times 2^{10}$) What will be the sum of the digits of the divisor of 17391, the largest prime number?
(a) 4 (b) 6 (c) 5 (d) 8
[IB ACIO 2024]

TYPE – V

81. What is the number of trailing zeros in 214! ?
(a) 51 (b) 47 (c) 45 (d) 5
[SSC CPO 2023]

82. Number 1, 2, 3, 4,.....1000 are multiplied together. The number of zeros at the end (on the right) of the product must be:
(a) 30 (b) 200 (c) 211 (d) 249
[SSC CGL 2022 (Tier-II)]

83. Number 2, 4, 6, 8, 10,....196,198, 200 are multiplied together. The number of zeros at the end of the product on the right will be equal to:
(a) 21 (b) 22 (c) 24 (d) 25
[SSC CGL 2020]

84. First 100 multiples of 10 i.e 10, 20,30, ...1000 are multiplied together. Find number of zeroes at the end of the product will be?
(a) 100 (b) 111 (c) 124 (d) 125
[SSC CGL - 2021]

TYPE – VI

Digits and Numbers

85. What is the difference between the place value and face value of the number '5' in 2356987?
(a) 4995 (b) 49990 (c) 4990 (d) 49995
[SSC CHSL 2021]

86. Find the difference between the place value of 8 and 4 in the number 683479.
(a) 7 (b) 80000 (c) 79600 (d) 76600
[SSC CGL 2021]

87. How many times does the number 5 appear in numbers from 1 to 100?
(a) 25 (b) 20 (c) 24 (d) 21
[MTS 2021]

88. When you count from 100 to 1000, how many times does the digit 8 appears?
(a) 320 (b) 300 (c) 280 (d) 310
[Selection Post 2023]

89. How many times does the number 3 appear in numbers from 301 to 399?
(a) 119 (b) 21 (c) 121 (d) 11
[SSC CGL 2021]

90. How many numbers are there from 400 to 700 in which the digit 6 occurs exactly twice?
(a) 20 (b) 19 (c) 18 (d) 21
[SSC CGL 2022]

91. What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?
(a) 30% (b) 50% (c) 20% (d) 40%
[Selection Post Phase-13, 29 August, 2025 Shift-III]

92. How many three digit numbers are there in which all the digits are odd?
(a) 100 (b) 125 (c) 500 (d) 250
[SSC CGL 2022]

93. How many three-digit even numbers can be formed from the digits 1, 2, 3, 4, 5 and 6 and 9 without repeating any of the digits?
(a) 120 (b) 48 (c) 90 (d) 24
[SSC CGL 2024]

94. How many 5 digit numbers can be formed using the numbers 0 to 9, if no digit is repeated?
(a) 27216 (b) 24192 (c) 30618 (d) 15120
[SSC CGL 2021]

95. How many 100 digit positive number are here?
(a) 9×10^{99} (b) 9×10^{100} (c) 10100 (d) 11×10^{98}
[SSC CGL 2020]

96. In a keyboard, how many keystrokes are required to type the numbers 1 to 800?
(a) 3868 (b) 3254 (c) 2260 (d) 2292
[MTS 2021]

97. What is the number of digits required to number a book having 428 pages?
(a) 2000 (b) 1500 (c) 1176 (d) 988
[SSC CHSL 2024]

98. How many times the keys of a typewriter have to be pressed in order to write number from 121 to 1346.
(a) 3675 (b) 4018 (c) 4021 (d) 4025
[SSC CGL 2020]

99. The sum of two-digit number and the number obtained by interchanging the digit is 77. If the difference of digits is 1, then the number is:
(a) 67 (b) 12 (c) 34 (d) 45
[SSC CHSL 2024]

100. The sum of digits of a two digit number is 9. If the digits are reversed, the number increases by 27. Find the number.
(a) 45 (b) 54 (c) 36 (d) 63
[SSC CHSL 2024]

101. The sum of the digits of a two digit number is 12. If the order of the digits is reversed, seven times the new number obtained is equal to four times the original number. Find the number.
(a) 84 (b) 75 (c) 48 (d) 57
[SSC CHSL 2023]

102. A three digit number has digits h, t, u (from left to right) with h > u. If the digits are reversed and the number thus formed is subtracted from the original number, the unit's digit in the resulting number is 4. What are the other two digits of the resulting number from left to right?
(a) 5 & 9 (b) 9 & 5 (c) 5 & 4 (d) 4 & 5
[IB ACIO-2023]

103. The number obtained by reversing a three-digit number is 396 more than the original number. The number in tenth place is 2. The digit at the hundredths place is half the digit at the units place. What is this three digit number?
(a) 521 (b) 326 (c) 723 (d) 428
[UPSI 2021]

TYPE – VII

104. Select the correct option: Convert binary 1101111 to decimal:
(a) 111 (b) 101 (c) 110 (d) 100
[SSC CGL 2020]

105. Convert decimal 101 to binary:
(a) 1101001 (b) 1100111
(c) 1101011 (d) 1100101
[SSC CGL 2020]

106. Converting the decimal number 241 to the binary number system we get:
(a) 11110000 (b) 11110001
(c) 10110001 (d) 11010001
[SELECTION POST PHASE-13 2025]

107. Convert decimal 99 to binary:
(a) 1100101 (b) 1101001
(c) 11100011 (d) 1100011
[SSC CGL 2020]

108. Is the sum of two binary numbers 1101111 & 1100101.
(a) 11010100 (b) 100000110
(c) 11110000 (d) 100011100
[SSC CGL 2021]

109. Binary number 11111111 added to 10001000 becomes decimal number:
(a) 373 (b) 374 (c) 391 (d) 376
[SELECTION POST PHASE-13 2025]

110. The binary number 11001 in the decimal number system is equal to:
(a) 23 (b) 24 (c) 25 (d) 26
[SELECTION POST PHASE-13 2025]

111. The binary number 11111111 divided by 1111 gives in the decimal system.
(a) an even number as the answer
(b) a composite number as the answer
(c) the highest prime number less than 20
(d) the second highest prime number less than 20
[SELECTION POST PHASE-13 2025]

TYPE – VIII

112. In a room, there are some chairs and some people. If on each chair, only one person is seated, then there is no chair for exactly one person. If on each chair, two persons sit, then there is one vacant chair. What is the number of chairs in the room?
(a) 6 (b) 3 (c) 7 (d) 4
[SSC CGL 2024]

113. While solving a mathematical problem, Atul squared the initial number and then subtracted 15 from it. Pratul first subtracted 15 from the initial number and then squared the difference. If both obtained the same answer, what was the initial number ?
(a) 8 (b) 6 (c) 9 (d) 7
[SSC CGL 2021]

114. 2 biscuits and 1 chocolate cost Rs. 69. 2 chocolates and 3 cups of coffee cost Rs. 127. 3 biscuits, 4 chocolates and 2 cups of coffee cost Rs. 229. Find the total cost (in Rs.) of 5 biscuits, 5 chocolates and 5 cups of coffee.
(a) 375 (b) 304 (c) 345 (d) 355
[SSC CGL 2024]

115. In a test (+ 5) marks are given for every correct answer and (-2) marks are given for every incorrect answer. Jay answered all the questions and scored (-12) marks, though he got 4 correct answers. How many of his answers were incorrect?
(a) 8 (b) 32 (c) 16 (d) 20
[SSC CPO 2022]

116. There are 160 multiple choice questions in a test. 4 marks are allotted for a correct answer and 1 mark is deducted for a wrong answer or unattempted question from the total score of correct answers. If a candidate scored 400 marks in the test, how many questions did he answer correctly?
(a) 110 (b) 115 (c) 112 (d) 120
[SSC CHSL 2024]