EXERCISE-01

Multiple Choice Questions

1. The smallest 4-digit number formed by using all the digits 5, 0, 3, 1 only once will contain:
(1) 0 in thousand's place
(2) 5 in ten's place
(3) 3 in ten's place
(4) 1 in unit's place

2. Write the smallest 5-digit number using three digits with 7 in the thousand's place?
(1) 77710 (2) 17001
(3) 07100 (4) 17000

3. Difference of the smallest 6-digit number and the greatest 4-digit number is:
(1) 1 (2) 90000
(3) 90001 (4) 900001

4. The largest 8 digit number is
(1) 88899924 (2) 99999999
(3) 99999929 (4) 89999996

5. A, B, C and D are four 4-digit numbers, each having the digit 9 only once and in the place shown. None of the other digits are known.

(A) | 9 | | | | (B) | | 9 | | |

(C) | | | 9 | | (D) | | | | 9 |

What can be said about A, B, C and D?
(1) D is the smallest of the four numbers
(2) B is larger than C
(3) A is the largest of the 4 numbers
(4) D is the largest of the 4 numbers

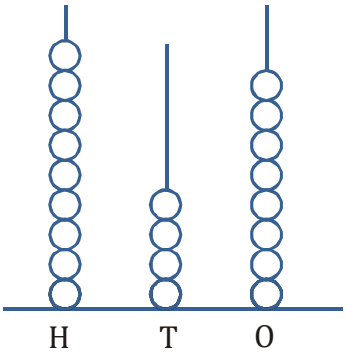
6. Place value of 8 in 86,93,04,600 is
(1) Eight crores (2) Eighty crores
(3) Crores (4) Eighty six crores

7. Place value of a digit increases by _____ times as it moves place by place from right to left.
(1) 100 (2) $\frac{1}{10}$
(3) 10 (4) 1000

8. 10 million = _____ crore.
(1) 10 (2) 1
(3) 5 (4) 100

9. 190216536 is written with commas as (Indian system)
(1) 190,216,536 (2) 1,9,0,2,1,6,5,3,6
(3) 19,02,16,536 (4) 1902,1,65,36

10. How many beads should be removed from the hundred's place in the abacus shown here if it has to represent a number between 550 and 650?



(1) 4 (2) 3
(3) 2 (4) 1

11. Convert 800 km 250 m 45 cm into cm. As a numeral in the Indian system, it is
(1) 80,02,545 (2) 80,25,045
(3) 8,00,25,045 (4) 80,00,25,045

12. A shopkeeper had Rs. 12,00,000 with him. He placed an order for 55 air conditioners at Rs. 20,825 each. What will be the amount left with him after the purchase?
(1) Rs. 5,04,625 (2) Rs. 56,250
(3) Rs. 54,625 (4) Rs. 56,425

13. Aakash sold 144 refrigerators at Rs. 9725 each. From the money he bought 150 T.V. sets. Find the cost of each T.V. set.
(1) Rs. 9236 (2) Rs. 9326
(3) Rs. 9362 (4) Rs. 9336

14. 648340021 is written with commas as (International system)
(1) 648,340,021 (2) 64,83,40,021
(3) 64,83,40,02,1 (4) None

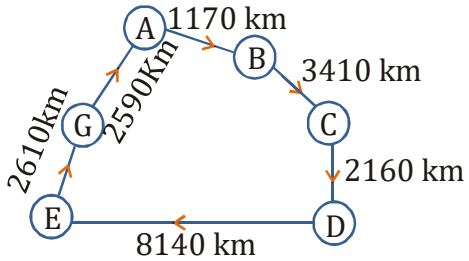
15. Bobby's date of birth is 19th September. Express the date in Roman system.
(1) XXI (2) XIXX
(3) IIX (4) XIX

16. The ascending order of XX, XXXVI, V is
(1) V, XXXVI, XX (2) XX, V, XXXVI
(3) V, XX, XXXVI (4) XXXVI, XX, V

17. Number of boys in a class are 27 and the girls are 19. Write the total strength of the class in Roman system.
(1) XLV (2) XLIV
(3) XLVI (4) XLVII

18. Raghu is 21 years old and Kavita is 22 years old. Write the sum of their ages in Roman system.
(1) XXXIII (2) XLIII
(3) LIII (4) XLCIII

19. A train started its journey and reached different places with a speed of 120 km/hour. The journey is shown below.



Find out the time taken by the train to reach A to E.
(1) 159 hrs (2) 156 hrs
(3) 124 hrs (4) None of these

20. Round 3500 to the nearest thousand?
(1) 3000 (2) 3600
(3) 4000 (4) 4500

True or false

1. The smallest 6-digit natural number ending in 5 is 102345.

2. The smallest 5-digit number is the successor of the largest 4-digit number.

3. Of the two given natural numbers, the one having more digits is greater.

4. 100 is written as C in roman numeral.

5. 100 million is equal to 1 crore.

6. In the Indian system of numeration each period has three places, as one's period has Ones, Tens and Hundreds.

7. 4 kg = 4000000 mg

8. 123456 is the smallest 6-digit number using distinct digits.

9. The successor of 10000 is 999.

10. The place value of 4 in 234517 is 40 hundred.

Fill in the blanks

1. The smallest even number of 5-digits is _____.

2. The number name for the predecessor of 1 crore is _____.

3. The largest number formed by the digits 4, 3, 0, 9, rounded off to the nearest thousand is _____.

4. Repetition of a symbol in Roman numerals means _____.

5. The number "Four million, four hundred forty four thousand four hundred forty four" written in the expanded form is _____.

6. The number "Eight million two" written in the expanded form is _____.

7. 5 more than 69,99,996 is equal to _____.

8. 1 meter is equal to _____ millimetres.

9. The estimated value of 5990 is _____.

10. In Indian system one million can be written as _____.

Match the column

Column – I		Column – II	
(1)	Two hundred thousand	(a)	Two crore
(2)	Two billion	(b)	Twenty lakh
(3)	Twenty million	(c)	Two hundred crore
(4)	Two million	(d)	Two lakh

ANSWER KEY

Multiple Choice Questions

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	3	4	3	2	3	2	3	2	3	2	3	3	4	1	4
Question	16	17	18	19	20										
Answer	3	3	2	3	3										

True or false

1. False **2.** True **3.** True **4.** True
5. False **6.** False **7.** True **8.** False
9. False **10.** True

Fill in the blanks

1. 10,000
2. Ninety-nine lakhs ninety-nine thousand nine hundred ninety-nine.
3. 9000 **4.** Addition
5. 4,000,000 + 400,000 + 40,000 + 4,000 + 400 + 40 + 4
6. 8,000,000 + 2 **7.** 70,00,001 **8.** 1,000 **9.** 6,000
10. 10 Lakhs

Match the column

(1) → d ; (2) → c ; (3) → a ; (4) → b

EXERCISE-02

Very short answer type questions

1. Compare each of the following pairs by putting <, > in the box.

(i) 16,23,168 ☐ 3,63,516

(ii) 16,43,17,345 ☐ 16,43,17,453

(iii) 30,17,894 ☐ 4,29,17,894

(iv) 86,60,000 ☐ 86,59,999

2. What is the smallest 3-digit number with unique digits?

3. What is the smallest 3-digit number which does not change if digits are written in reverse order?

4. Write the following numbers in the standard numeral.

(i) 9,00,000 + 70,000 + 8,000 + 300 + 40 + 2

(ii) 30,00,000 + 6,00,000 + 20,000 + 3,000 + 40 + 7

(iii) 7,00,00,000 + 1,00,000 + 30,000 + 20 + 6

(iv) 3,00,000 + 4,000 + 300 + 1

5. Write the following numbers as numerals:

(i) Sixty-two lakh forty-five thousand six hundred thirty-five

(ii) Nine crore fifty-eight lakh sixty-one thousand eighty-nine

6. State the place values of the bold written digits.

(i) 14,1**2**,326 (ii) 61,**1**3,617

(iii) 7,28,05,8**2**1 (iv) **4**,81,00,219

7. Insert commas in the following numerals according to the Indian system.

(i) 413615128 (ii) 6184153

(iii) 790012900

8. Insert commas in the following numerals according to the international system.

(i) 814213416 (ii) 92813241

(iii) 50082120035

Short answer type questions

9. Write the following numbers in expanded notation:

(i) 2,84,231 (ii) 52,11,568

(iii) 6,04,18,517 (iv) 8,91,81,213

10. According to the 1991 census, the number of people who spoke the following languages were:

Assamese	13079696
Hindi	337272114
Konkani	1760607

(i) Write the above numbers according to the Indian and International system of numeration.

(ii) Write the above numbers in words according to the Indian system of numeration.

(iii) Write the above numbers in words according to the International system.

11. Write the equivalent Roman numeral for each of the following Hindu-Arabic numerals:

(i) 46 (ii) 90

(iii) 120 (iv) 150

(v) 260 (vi) 350

(vii) 480 (viii) 950

12. Write the equivalent Hindu-Arabic numerals of the following Roman numerals:

(i) XXIII (ii) XXXI

(iii) XL (iv) XLIV

(v) LIV (vi) LXIII

(vii) LXXVI (viii) LXXXI

(ix) LXXXV (x) XC

(xi) XCIV (xii) XCVIII

(xiii) CCX (xiv) CD

(xv) DCC

Long answer type questions

13. Give the approximate value by estimating.
(i) 3228 + 572 ≈ (ii) 8010 – 2507
(iii) 32 × 58 ≈ (iv) 108 × 47 ≈

14. A vessel has 5 litres and 120 millilitres of mango shake. Into how many glasses each of 40 ml capacity, can it be filled?

15. In Swaroop Sweets Shop, if a cookie needs 8 g of ingredients, how many cookies can be made with their stock of 44.4 kg of ingredients?

16. The population of a district was 22,41,289 two years ago. If the population of the district increased by 48,000 in two years, what is the present population?

17. (i) Write the smallest 8-digit odd number using all odd digits.
(ii) Write the above number in words in Indian system.
(iii) Write the successor of this number in the expanded form.

18. I am a five digit number. My one's digits is 3. My hundreds digit is 2 times my ones digit. My tens digit is the sum of ones digit and hundreds digit. My thousands and ten-thousands digit is one less than hundreds digit
(i) What number am I?
(ii) Write my successor.
(iii) Am I greater than or less than the number, 'fifty five thousand nine hundred thirty six"?

19. At a rock concert there were 5500 spectators, out of which 750 were invites, who were given free tickets. The total collection from the sale of tickets was Rs 5,93,750. What was the cost of 1 ticket?

20. Puzzle: A number says "The sum of my digits is 12. When rounded off to the nearest hundred i am 500. Rounding to the nearest 10 makes me 530. Who am I?"

ANSWER KEY

Very short answer type questions

1. (i) > (ii) < (iii) < (iv) >

2. 102

3. 101

4. (i) 9,78,342 (ii) 36,23,047 (iii) 7,01,30,026 (iv) 3,04,301

5. (i) 62,45,635 (ii) 9,58,61,089

6. (i) 2000 (ii) 10,000 (iii) 20 (iv) 4,00,00,000

7. (i) 41,36,15,128 (ii) 61,84,153 (iii) 79,00,12,900

8. (i) 814,213,416 (ii) 92,813,241 (iii) 50,082,120,035

Short answer type questions

9. (i) 2,00,000 + 80,000 + 4,000 + 200 + 30 + 1

(ii) 50,00,000 + 2,00,000 + 10,000 + 1,000 + 500 + 60 + 8

(iii) 6,00,00,000 + 4,00,000 + 10,000 + 8,000 + 500 + 10 + 7

(iv) 8,00,00,000 + 90,00,000 + 1,00,000 + 80,000 + 1,000 + 200 + 10 + 3

10.

(i) Indian	1,30,79,696	33,72,72,114	17,60,607
International	13,079,696	337,272,114	1,760,607

(ii) **Assamese -** One crore thirty lakh seventy-nine thousand six hundred and ninety-six

Hindi - Thirty-three crore seventy-two lakh seventy-two thousand one hundred and fourteen

Konkani - Seventeen lakh sixty thousand six hundred and seven

(iii) **Assamese -** Thirteen million seventy-nine thousand six hundred and ninety-six

Hindi - Three hundred thirty-seven million two hundred seventy-two thousand one hundred and fourteen

Konkani - One million seven hundred sixty thousand six hundred seven

11.

(i) XLVI	(ii) XC	(iii) CXX	(iv) CL
(v) CCLX	(vi) CCCL	(vii) CDLXXX	(viii) CML

12.

(i) 23	(ii) 31	(iii) 40	(iv) 44
(v) 54	(vi) 63	(vii) 76	(viii) 81
(ix) 85	(x) 90	(xi) 94	(xii) 98
(xiii) 210	(xiv) 400	(xv) 700	

Long answer type questions

13. (i) 3800 (ii) 5000 (iii) 1800 (iv) 5000

14. 128

15. 5550 cookies

16. 22,89,289 people

17. (i) 1,11,13,579

(ii) One crore eleven lakh thirteen thousand five hundred seventy nine

(iii) 1,11,13,580 = 1,00,00,000 + 10,00,000 + 1,00,000 + 10,000 + 3,000 + 500 + 80

18. (i) 55693 (ii) 55694 (iii) Less than

19. Rs. 125

20. 534 or 525

Exercise-01 Solutions

Multiple choice questions

1. Option (3)

1	0	3	5
↑	↑	↑	↑
Th	H	T	O

O → Ones

T → Tens

H → Hundreds

Th → Thousand's

The smallest 4-digit number is 1035.

Whenever one of the given digits is zero, while forming the smallest number, we do not write "0" at the extreme left position but we can write at the second place from the left.

2. Option (4)

Numbers: 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. The smallest numbers are starting from the left i.e.; 0 and as we go from left to right they increase. Here we have to make smallest 5-digit number using three digits with 7 in the thousand's place.

So,

_	7	_	_	_
↑	↑	↑	↑	↑
TTh	Th	H	T	O

Now as we know "0" cannot be placed at Ten thousand's place, otherwise it will form a 4-digit number so, place "0" at hundred's, Ten's and one's place because it is the first smallest number of all._ 7 0 0 0

Now next smallest number after "0" is "1". So, place '1' at Ten thousand's place and here is your 5-digit smallest number 17000.

3. Option (3)

It will be having 6-digits/6 places.

Starting from

One's place: _ _ _ _ _ 0

Ten's place: _ _ _ _ 0 0

Hundred's place: _ _ _ 0 0 0

Thousand's place: _ _ 0 0 0 0

Ten thousand's place: _ 0 0 0 0 0

Now last place i.e.; lakh place but we cannot fill it by "0". So, the next smallest number after zero is "1".

∴ Smallest 6-digit number : 1 0 0 0 0 0

Similarly, we make greatest 4-digit number:

i.e., 9 9 9 9 by filling "9" at all the places.

Now; 100000
−9999
90001

4. Option (2)

Largest numbers:

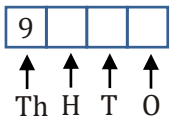
0 1 2 3 4 5 6 7 8 9
←

When we move from right to left; numbers become smaller than its previous one.

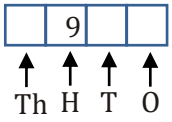
So, largest number is "9" in all the numbers.

∴ Largest 8-digit number is: 9 9 9 9 9 9 9 9

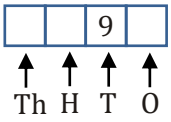
5. Option (3)

(A) 

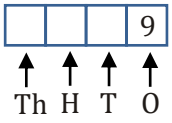
In this number "9" is at thousand's place.

(B) 

In this number "9" is at Hundred's place.

(C) 

In this number "9" is at ten's place.

(D) In 

this number "9" is at one's place.

As, all the numbers are of 4-digits.

Now start comparison of their digits on the extreme left.

And it is given that digit 9 is used only "once" in each. So, the number which is having digit "9" at the thousand's place will be the largest number.

6. Option (2)

Place value: means when a number consists of more than one digit, each digit has a value depending upon its position.

8 6, 9 3, 0 4, 6 0 0
TC C TL L TTh Th H T O

O → One's

T → Ten's

H → Hundred's

Th → Thousand's

TTh → Ten thousand's

L → Lakh's

TL → Ten Lakh's

C → Crore's

TC → Ten crore's

Crores		Lakhs		Thousands		Ones		
TC	C	TL	L	TTh	Th	H	T	O
8	6	9	3	0	4	6	0	0

So, its place value is

Eighty crores: 80,00,00,000

7. Option (3)

As per the Indian place value chart:

Crores		Lakhs		Thousands		Ones		
Ten crore	Crore	Ten Lakh	Lakh	Ten Thousand	Thousand	Hundred	Ten	One
10,00,00,000	1,00,00,000	10,00,000	1,00,000	10,000	1,000	100	10	1

So; place value of a digit increases by 10 times as it moves place by place from right to left.

8. Option (2)

10 million = 1 crore

According to international system of numeration

10 million = 10,000,000 (8-digits)

and when we see in our Indian system of numeration, an 8-digit number is 1,00,00,000.

Therefore, we can say

One million = ten lakhs

Ten million = one crore

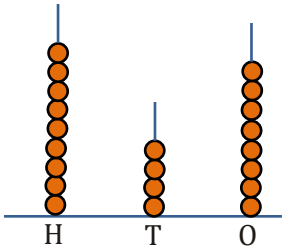
Hundred million = Ten crores

9. Option (3)

According to Indian system of numeration, first comma comes after hundred's place and marks thousands. The second comma comes after ten thousand's place and marks lakhs. The third comma comes after ten lakhs place and marks crores.

19,02,16,536

10. Option (2)



Count the beads on each place $\underset{H}{9}\ \underset{T}{4}\ \underset{O}{8}$

Now, we have to represent a number between 550 and 650 by removing the beads from Hundred's place

Digit at Hundred's place is 9. So, we have to think about a number that will lie in between 550 and 650. Let's start with

(1) $\begin{array}{r} 900 \\ -400 \\ \hline 500 \end{array}$ (2) $\begin{array}{r} 900 \\ -500 \\ \hline 400 \end{array}$ (3) $\begin{array}{r} 900 \\ -300 \\ \hline 600 \end{array}$

3 is suitable only as 600 lies between 550 and 650.

So, we have got the number that has to be subtracted from 9 i.e., "3".

So, we remove 3 beads from the hundred's place i.e., $550 < \begin{array}{r} 948 \\ -300 \\ \hline 648 \end{array} < 650$

11. Option (3)

Since, 1 km = 1000 m

And 1 m = 100 cm

800 km = 800 × 1000 m = 800000 m

Now; 800000 m into cm

800000 × 100 = 80000000 cm

250 m = 250 × 100 = 25000 cm

45 cm

now add all of them i.e.,

$$\begin{array}{r} 8,00,00,000 \\ 25,000 \\ +45 \\ \hline 8,00,25,045 \end{array}$$

12. Option (3)

Shopkeeper had Rs. 12,00,000

He placed an order for 55 air conditioners at Rs. 20,825

i.e., Rs. 20,825 × 55 = Rs 11,45,375

∴ Amount left with him = Rs. 12,00,000
−Rs. 11,45,375
Rs. 54,625

13. Option (4)

Cost of 144 refrigerators = Rs. 9725 × 144

= Rs. 1400400

Now he bought 150 T.V. sets from this money.

∴ Cost of each T.V. Set = $\frac{1400400}{150}$ = Rs. 9336.

14. Option (1)

According to International system of numeration, commas are used to mark thousands and millions. It comes after every three digits from the right.

648,340,021

15. Option (4)

19th September.

I = 1 After 3 we denote 4 by IV, where V = 5

II = 2

III = 3

If a symbol with a smaller value is written on the right of a symbol with a greater value, then its value is added to the value of the greater symbol.

For eg: LX = 50 + 10 = 60; L = 50

XII = 10 + 2 = 12 ; X = 10

and If a symbol with a smaller value is written on the left of a symbol with a larger value, then its value is subtracted from the value of the greater symbol.

For eg: IV = 5 – 1 = 4

IX = 10 – 1 = 9

Therefore, 19 = XIX = 10 + 9 = 19

16. Option (3)

Ascending order of XX, XXXVI, V

⇒ XX = 10 + 10 = 20

XXXVI = 10 + 10 + 10 + 5 + 1 = 36

V = 5

∴ 5, 20, 36 is in the ascending order.

i.e.; V, XX, XXXVI

17. Option (3)

Number of boys in the class = 27

Number of girls in the class = 19

$\therefore$ Total strength of the class = 27 + 19 = 46

In roman system = XLVI (46 = 40 + 6 = XL + VI = XLVI)

18. Option (2)

Raghu's age = 21 years old

Kavita's age = 22 years old

$\therefore$ Sum of their ages = 21 + 22 = 43

We cannot write this sum 43 as XXXXIII as X can be repeated upto three times only

$\therefore$ 43 = XLIII (43 = 40 + 3 = XL + III = XLIII)

19. Option (3)

Distance between A to E = 1170 + 3410 + 2160 + 8140 = 14880 km

$\therefore$ Time taken = 14880 $\div$ 120 = 124hrs.

20. Option (3)

Rounding off the numbers to the nearest thousands. Steps are :

(1) In the given number, examine the digit at hundreds place.

(2) If the digit at hundreds place is 0, 1, 2, 3 or 4, replace the digits at hundreds, tens and ones place by "0" each and rest of the digits remain unchanged.

(3) If the digit at hundreds place is 5, 6, 7, 8 or 9, replace the digits at hundreds, tens and ones place by "0" and add 1 to the digit at thousands place.

$\therefore$ 3 5 0 0
Th H T O

In 3500, add 1 to the digit at thousands place and "0" at ones, tens and hundreds place.

$\therefore$ 3500 rounded to nearest thousand is 4000.

True or false

1. False

Smallest 6-digit number ending in 5 is not 102345.

because 100005 is the smallest 6-digit number ending in 5.

2. True

Smallest 5-digit number = 10000

largest 4-digit number = 9999

10000 is the successor of 9999.

3. True

Ex. $\underbrace{216}_{\text{3 digits}} > \underbrace{16}_{\text{2 digits}}$

4. True

100 is written as C in Roman Numeral.

5. **False**

100 million is not equal to 1 crore.

because 1 million = ten lakh.

10 million = 1 crore.

100 million = ten crore.

6. **False**

In one's period, there are three places, ones, tens and hundreds. In thousands period, there are two places, thousands and ten thousands. Similarly in lakhs and crores period, there are only two places.

7. **True**

4 kg = 4000000 mg

as 1 kg = 1000 g and 1 g = 1000 mg

1 kg = 1000 × 1000 mg = 1000000 mg

So, 4 kg = 4000000 mg

8. **False**

Smallest 6-digit number using distinct digits is 102345.

9. **False**

10000 is the successor of 9999 and successor of 10000 is 10001.

10. **True**

Place value of 4 in 234517 is 4000 means 40 hundreds.

Fill in the blanks

1. 10,000

2. Predecessor of 1 crore is

$$\begin{array}{r} 1,00,00,000 \\ -\quad\quad 1 \\ \hline 99,99,999 \end{array}$$

i.e.; Ninety nine lakh ninety nine thousand nine hundred ninety nine.

3. 4,3,0,9

9430 is the largest number formed by these digits and when 9430 is rounded off to the nearest thousand it will be 9000.

4. Repetition of a symbol means addition.

5. 4,444,444 in expanded form

4,000,000 + 400,000 + 40,000 + 4,000 + 400 + 40 + 4.

6. Eight million two means

8,000,002 = 8,000,000 + 2

7.
$$\begin{array}{r} 69,99,996 \\ +\quad 5 \\ \hline 70,00,001 \end{array}$$

8. 1 m = 100 cm and 1 cm = 10 mm. So, 1m = 1000 mm

9. The estimated value of 5990 = 6000

10. 1 million = 10 lakhs

Match the column

Column-I	**Column-II**
(1) Two hundred thousand (200,000)	(d) Two lakh (2,00,000)
(2) Two billion (2,000,000,000)	(c) Two hundred crore (200,00,00,000)
(3) Twenty million (20,000,000)	(a) Two crore (2,00,00,000)
(4) Two million (2,000,000)	(b) Twenty lakh (20,00,000)

Exercise-02 Solutions

1. (i) 16,23,168 > 3,63,516

as 1 6, 2 3, 1 6 8 and 3, 6 3, 5, 1 6

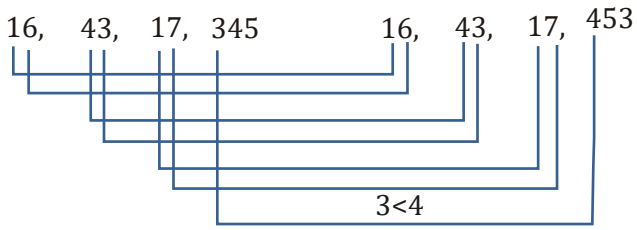
TL L TTh Th H T O L TTh Th H T O

Rule 1: A number having more digits will be greater of the two.

Rule 2: We can compare two numbers having same number of digits by comparing their digits on extreme left. If the extreme left digits are same, then we compare the next digit to the right of it and so on.

(ii) 16, 43, 17, 345 < 16, 43, 17, 453

Both the numbers are of equal digits.



(iii) 30, 17, 894 < 4, 29, 17, 894 because 4, 29, 17, 894 has more digits.

(iv) 86, 60, 000 > 86, 59 999

6 > 5

2. Smallest 3-digit number is 100.

but smallest 3-digit number with unique digits is 102.

3. Smallest 3-digit number is 100 but if digits are written in reverse order then the number will be 001 i.e.; it will become 1-digit smallest number.

So; 101 is the smallest 3-digit number which does not change on reversing the order of digits.

4. (i) 9,00,000 + 70,000 + 8,000 + 300 + 40 + 2

$$\begin{array}{r} 9,00,000 \\ 70,000 \\ 8,000 \\ 300 \\ 40 \\ +2 \\ \hline 9,78,342 \end{array}$$

(ii) 30,00,000 + 6,00,000 + 20,000 + 3,000 + 40 + 7

30,00,000
6,00,000
20,000
3,000
40
+7
36,23,047

(iii) 7,00,00,000 + 1,00,000 + 30,000 + 20 + 6

7,00,00,000
1,00,000
30,000
20
+6
7,01,30,026

(iv) 3,00,000 + 4,000 + 300 + 1

3,00,000
4,000
300
+1
3,04,301

5. (i) Sixty-two lakh forty-five thousand six hundred thirty-five.

62,00,000 + 45,000 + 600 + 35

62,00,000
45,000
600
+35
62,45,635

(ii) Nine crores fifty-eight lakh sixty-one thousand eighty-nine.

9,00,00,000 + 58,00,000 + 61,000 + 89

9,00,00,000
58,00,000
61,000
+89
9,58,61,089

6. Place value means when a number consists of more than one digit, each digit has a value depending upon its position.

(i) The place value of 2 in 14,12,326 is 2000.

(ii) The place value of 1 in 61,13,617 is 10,000

(iii) The place value of 2 in 7,28,05,821 is 20.

(iv) The place value of 4 in 4,81,00,219 is 4 crores i.e.; 4,00,00,000.

7. According to the Indian system: The first comma comes after hundreds place. The second comma comes after ten thousands place and the third comma comes after ten lakh place and marks crore.

(i) 413615128

4	1,	3	6,	1	5,	1	2	8
↓	↓	↓	↓	↓	↓	↓	↓	↓
TC	C	TL	L	TTh	Th	H	T	O

= 41,36,15,128

(ii) 6184153

6	1,	8	4,	1	5	3
↓	↓	↓	↓	↓	↓	↓
TL	L	TTh	Th	H	T	O

= 61,84,153

(iii) 790012900

7	9,	0	0,	1	2,	9	0	0
↓	↓	↓	↓	↓	↓	↓	↓	↓
TC	C	TL	L	TTh	Th	H	T	O

= 79,00,12,900

8. According to the international system, commas come after every three digits starting from the right.

(i) 814213416 = 814,213,416

(ii) 92813241 = 92,813,241

(iii) 50082120035 = 50,082,120,035

9. Expanded Form

TC	C	TL	L	TTh	Th	H	T	O
↓	↓	↓	↓	↓	↓	↓	↓	↓
10,00,00,000	1,00,00,000	10, 00,000	1, 00,000	10,000	1,000	100	10	1

(i) 2,84,231

2,	8	4,	2	3	1
L	TTh	Th	H	T	O

Multiply the digits with their respective place values as expanded form is a way to write numbers by adding the value of its digits. i.e.;

2 × 1,00,000 + 8 × 10,000 + 4 × 1,000 + 2 × 100 + 3 × 10 + 1 × 1

= 2,00,000 + 80,000 + 4,000 + 200 + 30 + 1

(ii) 52,11,568

5 2, 1 1, 5 6 8

TL L TTh Th H T O

= 5 × 10,00,000 + 2 × 1,00,000 + 1 × 10,000 + 1 × 1000 + 5 × 100 + 6 × 10 + 8 × 1

= 50,00, 000 + 2,00,000 + 10,000 + 1,000 + 500 + 60 + 8

(iii) 6,04,18,517

6, 0 4, 1 8, 5 1 7

C TL L TTh Th H T O

= 6 × 1,00,00,000 + 4 × 1,00,000 + 1 × 10,000 + 8 × 1,000 + 5 × 100 + 1 × 10 + 7×1

= 6,00,00,000 + 4,00,000 + 10,000 + 8,000 + 500 + 10 + 7

(iv) 8,91,81,213

8, 9 1, 8 1, 2 1 3

C TL L TTh Th H T O

= 8×1,00,00,000+9×10,00,000 + 1 × 1,00,000 + 8 × 10,000 + 1 × 1,000 + 2 × 100 + 1 × 10 + 3

= 8,00,00,000 + 90,00,000 + 1,00,000 + 80,000 + 1,000 + 200 + 10 + 3

10. (i) Assamese: 13079696

Indian	International
1,30,79,696	13,079, 696

Hindi: 337272114

Indian	International
33,72,72,114	337,272,114

Konkani: 1760607

Indian	International
17,60,607	1,760,607

(ii) 1,30,79,696: One crore thirty lakh seventy-nine thousand six hundred and ninety-six.
33,72,72,114: Thirty-three crore seventy-two lakh seventy-two thousand one hundred and fourteen.
17,60,607: Seventeen lakh sixty thousand six hundred and seven.

(iii) 13,079,696: Thirteen million seventy-nine thousand six hundred and ninety-six.
337,272,114: Three hundred thirty-seven million two hundred seventy-two thousand one hundred and fourteen.
1,760,607: One million seven hundred sixty thousand six hundred and seven.

11. V, L and D are never subtracted.

I can be subtracted from V and X once only.

X can be subtracted from L and C once only.

C can be subtracted from D and M once only.

I or V is never written to the left of L or C.

L is never written to the left of C.

I	V	X	C	L	D	M
1	5	10	100	50	500	1000

(i) 46

= 40 + 6 = XLVI

(ii) 90

= 100 – 10 = XC

(iii) 120

= 100 + 20 = CXX

(iv) 150

= 100 + 50 = CL

(v) 260

= 100 + 100 + 50 + 10 = CCLX

(vi) 350

= 100 + 100 + 100 + 50 = CCCL

(vii) 480

= 400 + 80

✓ ✗

= CDLXXX CCCCLXXX because X, C cannot be repeated more than 3 times.

(viii) 950

= 900 + 50 = CML

12.

I	V	X	C	L	D	M
1	5	10	100	50	500	1000

(i) XXIII = 10 + 10 + 1 + 1 + 1 = 23

(ii) XXXI = 10 + 10 + 10 + 1 = 31

(iii) XL = 50 – 10 = 40

(iv) XLIV = (50 – 10) + (5 – 1) = 40 + 4 = 44

(v) LIV = 50 + (5 – 1) = 50 + 4 = 54

(vi) LXIII = 50 + 10 + 1 + 1 + 1 = 63

(vii) LXXVI = 50 + 10 + 10 + 5 + 1 = 76

(viii) LXXXI = 50 + 10 + 10 + 10 + 1 = 81

(ix) LXXXV = 50 + 10 + 10 + 10 + 5 = 85

(x) XC = 100 – 10 = 90

(xi) XCIV = (100 – 10) + (5 – 1) = 90 + 4 = 94

(xii) XCVIII = (100 – 10) + 5 + 1 + 1 + 1 = 90 + 8 = 98

(xiii) CCX = 100 + 100 + 10 = 210

(xiv) CD = 500 – 100 = 400

(xv) DCC = 500 + 100 + 100 = 700

13. (i) 3228 + 572 ≈

Rounding off to nearest hundreds 3228 and 572 may be rounded off to 3200 and 600 respectively 3200

$$\begin{array}{r} +600 \\ \hline 3800 \end{array}$$

So, 3228 + 572 ≈ 3800

(ii) 8010 – 2507 ≈

Rounding off to nearest thousands : 8010 and 2507 may be rounded off to 8000 and 3000 respectively .

$$\begin{array}{r} 8000 \\ -3000 \\ \hline 5000 \end{array}$$

So, 8010–2507 ≈ 5000

(iii) 32 × 58 ≈

3 2 ≈ 30 (replace the ones place by zero)

↓ ↓

T O

5 8 ≈ 60(replace the ones place by zero and increase the digit in the tens place by 1)

↓ ↓

T O

$$\begin{array}{r} 30 \\ \times\ 60 \\ \hline 00 \\ 180\times \\ \hline 1800 \end{array}$$

∴ ∴ 32 × 58 ≈ 1800

(iv) 108 × 47 ≈

⇒ Rounding off 108 → replace the ones and tens place by zeroes i.e; 100

Rounding off 47 → replace the ones place by zero and increase the tens place by 1 i.e., 50

∴ 108 × 47 ≈ 100 × 50

$$\begin{array}{r} 100 \\ \times\ 50 \\ \hline 000 \\ 500\times \\ \hline 5000 \end{array}$$

∴ 108 × 47 ≈ 5000

14. Since 1 litre = 1000 ml.

∴ Total amount of mango shake in the vessel

= 5l + 120 ml

= 5 × 1000 ml + 120 ml

= 5000 ml + 120 ml = 5120 ml

∴ Number of glasses that can be filled each of 40 ml capacity = $\frac{5120}{40}=\frac{512}{4}$ = 128

Hence, 128 glasses can be filled.

15. We know that 1 kg = 1000 g.

∴ Stock of 44.4 kg of ingredients = 44.4 × 1000 = 44400 g

Now, total number of cookies made with this stock if a cookie needs 8g of ingredients

= $\frac{44400}{8}$ = 5550

Hence, 5550 cookies can be made.

16. Population of a district two years ago = 22,41,289

If the population of a district increased by 48,000 in two years.

∴ Present population = 22,41,289
+48,000
22,89,289

17. (i) Odd numbers are the numbers which are not divisible by 2 i.e.; 1,3,5,7,9. we have to make smallest 8-digit number using all odd digits

∴ 1, 1 1, 1 3, 5 7 9

Starting from the one's place, fill it by the largest number i.e.; "9" then at ten's place "7", at hundred's place "5", at thousand's place "3", and at the remaining place fill "1". We have filled the remaining places by 1, so as to make it a smallest number because 1 is the smallest of all the odd numbers and we have to use all the numbers from 0– 9.

(ii) The number formed above is 1,11,13,579.

In Indian system we write it in words by using the Indian place values i.e.

1,	1	1,	1	3,	5	7	9
↓	↓	↓	↓	↓	↓	↓	↓
C	TL	L	TTh	Th	H	T	O

One crore eleven lakh thirteen thousand five hundred seventy-nine.

(iii) The successor of the number is obtained by adding 1 to the number.

1,11,13,579
⇒ +1
1,11,13,580

Now to represent this in expanded form, we write the digits by adding the place values to it.

= 1 × 1,00,00,000 + 1 × 10,00,000 + 1 × 1,00,000 + 1 × 10,000 + 3 × 1000 + 5 × 100 + 8 × 10

= 1,00,00,000 + 10,00,000 + 1,00,000 + 10,000 + 3,000 + 500 + 80

18. 5-digit number: 5 5 6 9 3

ones digit = 3

Hundred's digit = 2 times of ones digit

= 2 × 3 = 6

Tens digit = 3 + 6 = 9

Thousands digit = 6 – 1 = 5

Ten thousands digits = 6 – 1 = 5

(i) Number is 55693.

(ii) Successor of 55693 is 55693 + 1

$$\begin{array}{r} 55693 \\ +\ 1 \\ \hline 55694 \end{array}$$

(iii) Fifty-five thousand nine hundred thirty-six = 55936

55693 is less than 55936.

19. Total spectators at rock concert = 5500

Invites which were given free tickets = 750

$$\therefore \text{ Spectators not having free tickets } = \begin{array}{r} 5500 \\ -\ 750 \\ \hline 4750 \end{array}$$

Total collection from the sale of tickets = Rs.5,93,750

$$\therefore \text{ Cost of 1 ticket } = \frac{Rs.5,93,750}{4750} = \text{Rs.125.}$$

Hence, cost of one ticket is Rs. 125.

20. Given that sum of the digits is 12

Rounding off to nearest hundred = 500

Rounding off to nearest ten = 530

∴ 5 _ _ will be the number.

now we have to find the digit at ones and tens place i.e.;

5 + _ + _ = 12

Since only 5 + 7 = 12.

∴ We have to break "7" in 2 digits i.e., (1, 6), (2, 5), (3, 4), (4, 3), (5, 2), and (6,1) are the possible digits but it is given that rounding to nearest ten makes it 530.

∴ We can use here digits (3, 4) or (2, 5) only (4, 3) because it will satisfy the conditions of the question.

∴ 534 or 525 is the required number.