Number System

EXERCISE 1(A)

Question 1.
Which is greater ?
(i) 537 or 98
(ii) 2428 or 529
(iii) 2, 59, 467 or 10, 35, 729
Solution:
(i) 537 or 98
Since 537 is three digit number and 98 is two digit number.
Hence 537 > 98 and 537 is greater
(ii) 2428 or 529
Since 2498 is four digit number and 529 is three digit number.
2498 > 529 ; 2498 is greater
(iii) 2, 59, 467 or 10, 35, 729
Since 10, 35, 729 is seven digit number and 2, 59, 467 is six digit number
10, 35, 729 > 2, 59, 467 ; 10, 35, 729 is greater

Question 2.
Which is smaller ?
(i) 428 or 437
(ii) 2497 or 2597
(iii) 3297 or 3596
Solution:

(i) 428 or 437
We observe that both the numbers are of three-digits.
And at the leftmost, both the number have same digit i.e. 4. But at the second place from the left, the first, number has 2 and the second number has 3.
Since 2 < 3
437 is greater
(ii) 2497 or 2597
We observe that both the numbers are of four digits.
And at the leftmost, both the numbers have same digit i.e. 2. But at the second place from the left, the first number has 4 and the second number has 5.
Since 4 < 5
2597 is greater

(iii) 3297 or 3596
We observe that both the numbers are of four digits.
And at the leftmost, both the numbers have same digit i.e. 2. But at the second place from the left, the first number has 4 and the second number has 5.
Since 4 < 5
3596 is greater

Question 3.
Which is greater ?
(i) 45293 or 45427
(ii) 380362 or 381007
(iii) 63520 or 63250
Solution:
(i) 45293 or 45427
We observe that both the numbers are of 5-digits.
And at the digits at leftmost and second place from the left are same.
But the digits at the third place from the left are different, the first number has 2 and the second number has 4.
Since 2 < 4
45427 is greater
(ii) 380362 or 381007
We observe that both the numbers are of 6-digits.
And at the digits at leftmost and second place from the left are same.
But the digits at the third place from the left are different, the first number has 0 and the second number has 1.
Since 0 < 1
381007 is greater
(iii) 63520 or 63250
We observe that both the numbers are of 5-digits.
And at the digits at leftmost and second place from the left are same.
But the digits at the third place from the left are different, the first number has 5 and the second number has 2.

Since
5 < 2

63520 is greater

Question 4.

By making a suitable chart, compare:
(i) 540276 and 369998
(ii) 6983245 and 6893254

Solution:

(i) 540276 and 369998

5	4	0	2	7	6
3	6	9	9	9	8

Clearly, both the numbers have equal number of digits i.e. 6
And at the leftmost, the first number has 5 and the second number has 3.
Since 5 > 3
540276 is greater.
(ii) 6983245 and 6893254

6	9	8	3	2	4	5
6	8	9	3	2	5	4

Clearly, both the numbers have equal number of digits i.e. 7
And at the leftmost, both have the same digit i.e. 6
And at the second place from the left, the first number has 9 and the second number has 8.
Since 9 > 8
6983245 is greater.

Question 5.

Compare the numbers written in the following table by writing them in ascending order:

	5	4	3	2	9	7	2
2	3	1	0	6	2	9	3
	5	2	2	3	7	9	1
2	3	1	8	2	6	3	4
5	4	3	4	4	7	8	2

Solution:

The given number in ascending order are as :
54344782 > 243182634 > 23106293 > 5432972> 5223791

5	4	3	4	4	7	8	2
2	3	1	8	2	6	3	4
2	3	1	0	6	2	9	3
	5	4	3	2	9	7	2
	5	2	2	3	7	9	1

Question 6.
Use table form to compare the numbers in descending order : 5,43,287; 54,82,900; 27,32,940; 43,877 ; 78,396 and 4,999
Solution:
The given numbers in descending order are as :

			4	9	9	9
		4	3	8	7	7
		7	8	3	9	6
	5	4	3	2	8	7
2	7	3	2	9	4	0
5	4	8	2	9	0	0

4, 999 < 43, 877 < 78, 396 < 5, 43, 287 < 27, 32, 940 < 54, 82, 900

Question 7.
Find the smallest and the greatest numbers in each case given below:
(i) 983, 5754, 84 and 5942
(ii) 32849, 53628, 5499 and 54909.
Solution:
(i) 983, 5754, 84 ahd 5942
Since 84 has the least number of digits.
84 is the least smallest whereas 5754 and 5942 have the maximum number of digits.
Out of 5754 and 5942, 5942 is greater.
5942 is the greatest and 84 is the smallest.

(ii) 32849, 53628, 5499 and 54909.
Since 5499 has the least number of digits.
5499 is the smallest
Whereas 54909 and 53628 have the maximum number of digits. Out of 54909 and 53628, 54909 is greater.
54909 is the greatest and 5499 is the smallest

Question 8.
Form the greatest and the smallest 4 digit numbers using the given digits without repetition
(i) 3, 7, 2 and 5
(ii) 6, 1, 4 and 9
(iii) 7, 0, 4 and 2
(iv) 1, 8, 5 and 3
(v) 9, 6, 0 and 7
Solution:
(i) The given digits are 3, 7, 2 and 5
(a) The greatest 4-digit number = 7532

(b) and the smallest 4-digit number = 2357
(ii) The digits are given : 6, 1, 4 and 9
(a) The greatest 4-digit number = 9641
(b) and the smallest 4-digit number = 1469
(iii) The digits are given 7, 0, 4 and 2
(a) The greatest 4-digit number = 7420
(b) The smallest 4-digit number = 2047
(iv) the digits are given 1, 8, 5 and 3
(a) The greatest 4-digit number = 8531
(b) and the smallest 4-digit number =1358
(v) The digits are given 9, 6, 0 and 7
(a) The greatest 4-digit number = 9760
(b) and the smallest 4-digit number = 6079

Question 9.
Form the greatest and the smallest 3-digit numbers using any three different digits with the condition that digit 6 is always at the unit (one's) place.
Solution:
The condition for 3-digit number of three different digits is that 6 is at the ones place
The greatest 3-digit number will be 986 and the smallest 3-digit number will be 106

Question 10.
Form the greatest and the smallest 4-digit number using any four different digits with the condition that digit 5 is always at ten's place.
Solution:
The condition for 4-digit number of four different digits is that 5 is always at its tens place
The greatest 4-digit number will be 9857 and the smallest 4-digit number will be 1052

Question 11.
Fill in the blanks :
(i) The largest number of 5-digit is..... and the smallest number of 6-digit is .....
(ii) The difference between the smallest number of four digits and the largest number of three digits = ... – ..... = ...
(iii) The sum (addition) of the smallest number of three digit and the largest number of two digit = ... + ...= .....
(iv) On adding one to the largest five digit number, we get..... which is the smallest..... digit number.
(v) On subtracting one from the smallest four digit number, we get..... which is the..... three digit number.
Solution:
(i) The largest number of 5-digit is **99999** and the smallest number of 6-digit is **100000**
(ii) The difference between the smallest number of four digits and the largest number of

three digits = **1000**- **999** = **1**
(iii) The sum (addition) of the smallest number of three digit and the largest number of two digit = **100** + **99**= **199**
(iv) On adding one to the largest five digit number, we get **100000** which is the smallest **six** digit number.
(v) On subtracting one from the smallest four digit number, we get **999** which is the **greatest** three digit number.

Question 12.
Form the largest number with the digits 2, 3, 5, 9, 6 and 0 without repetition of digits.
Solution:
Largest number = 9, 65, 320.

Question 13.
Write the smallest and the greatest numbers of 4 digits without repetition of any digit.
Solution:
Smallest 4 digits number = 1023
Greatest number of 4 digits = 9876

Question 14.
Find the greatest and the smallest five digit numbers with 8 in hundred's place and with all the digits different.
Solution:
Greatest 5-digit number = 97865 and smallest 5-digit number = 10823

Question 15.
Find the sum of the largest and the smallest four-digit numbers:
Solution:
Largest four-digits number = 9,999
Smallest four digits number = 1,000
Sum of the above = 9, 999 + 1,000 = 10,999.

Question 16.
Find the difference between the smallest and the greatest six-digits numbers.
Solution:
Greatest six-digits number = 9, 99, 999
Smallest six-digits number = 1,00,000
Difference between greatest and smallest = 9, 99, 999 - 1, 00, 000 = 8, 99, 999

Question 17.
(i) How many four digit numbers are there between 999 and 3000 ?
(ii) How many four digit numbers are there between 99 and 3000 ?

Solution:
(i) Four digit numbers between 999 and 3000 = 2999 - 999 = 2000
(ii) Four digit numbers between 99 and 3000 = 2999 - 999 = 2000

Question 18.
How many four digit numbers are there between 500 and 3000 ?
Solution:
Four digits numbers between 99 and 3000 = 2999 - 999 = 2000

Question 19.
Write all the possible three digit numbers using the digits 3, 6 and 8 only; if the repetition of digits is not allowed.
Solution:
All the three digits number using 3, 6, and 8 when repetition is not allowed, can be :
368, 386, 638, 683, 836, 863.

Question 20.
Make the greatest and the smallest 4-digit numbers using the digits 5, 4, 7 and 9 (without repeating the digits) and with the condition that:
(i) 7 is at unit's place.
(ii) 9 is at ten's place
(iii) 4 is at hundred's place
Solution:
(i) 7 is at unit's place
The smallest 4-digit number using the digits 5, 4, 7 and 9, and keeping 7 at unit's place = 4597
The greatest 4-digit number using the digits 5, 4, 7 and 9 and keeping 7 at unit's place = 9547
(ii) 9 is at ten's place
The smallest 4-digit number using the digits 5, 4, 7 and 9 and keeping 9 at ten's place = 4597
The greatest 4-digit number using the digits 5, 4, 7 and 9 and keeping 9 at ten's place = 7594
(iii) 4 is at hundred's place
The smallest 4-digit number using the digits 5, 4, 7 and 9 and keeping 4 at hundred's place = 5479
The greatest 4-digit number using the digits 5, 4, 7 and 9 and keeping 4 at hundred's place = 9475