8. Number, Ranking & Time Sequence Test

NUMBER TEST

In this type of questions, generally a set, group or series of numerals is given and the candidate is asked to trace out numerals following certain given conditions or lying at specific mentioned positions after shuffling according to a certain given pattern.

Solved Examples

Ex.1 How many such 5s are there in the following number sequence each of which is immediately preceded by 3 or 4 but not immediately followed by 8 or 9 ?

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

(1) Four   (2) Three   (3) Five   (4) None of these

Sol. As you know, a number which comes after a given number is said to follow it while one which comes before the given number precedes it.

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

Clearly, there are five such 5s. Hence, the answer is (3).

Ex.2 In the series given below, how many 8s are there each of which is exactly divisible its immediate preceding as well as succeeding numbers ?

2 8 3 8 2 4 8 2 4 8 6 8 2 8 2 4 8 3 8 2 8 6

(1) One   (2) Two   (3) Three   (4) Four

Sol. Clearly, we may mark such sets of 3 numbers, in which the middle number is 8 and each of the two numbers on both sides of it is a factor of 8, as shown below:

2 8 3 8 2 ⟦4 8 2⟧ 4 8 6 8 ⟦2 8 2⟧ 4 8 3 8 2 8 6

So, there are two such 8s. Hence, the answer is (2).

Ex.3 In the series, 6 4 1 2 2 8 7 4 2 1 5 3 8 6 2 1 7 1 4 1 3 2 8 6

how many pairs of successive numbers have a difference of 2 each?

(1) Four   (2) Five   (3) Six   (4) Seven

Sol. Clearly, the pairs of successive numbers having a difference of 2 can be shown as follows :

⟦6 4⟧ 1 2 2 8 7 ⟦4 2⟧ 1 ⟦5 3⟧ 8 6 2 1 7 1 4 ⟦1 3⟧ 2 ⟦8 6⟧

Thus, there are six such pairs. Hence, the answer is (C).

Ex.4 How many such pairs of digits are there in the number 531268947 each of which has as many digits between them in the number as when they are arranged in descending order?

(1) None   (2) One   (3) Two   (4) More than three

Sol. The given number is : 531268947.

Arranging the digits in descending order, we get: 987654321.

We have the following pairs of digits, satisfying the given conditions.

Digits in Given Number	Digits in Descending Order
5 3 1 2	5 4 3 2
3 1 2 6	6 5 4 3
1 2	2 1
1 2 6 8 9 4 7	7 6 5 4 3 2 1
2 6 8 9 4 7	7 6 5 4 3 2
8 9	9 8
9 4 7	9 8 7

Thus, we have 7 such pairs, namely (5, 2), (3, 6), (1, 2), (1, 7), (2, 7), (8, 9) and (9, 7). Hence, the answer is (D).

RANKING TEST

In this type of questions, generally the ranks of a person both from the top and from the bottom are mentioned and the total number of persons is asked. However, sometimes these questions is put in the form of a puzzle of interchanging seats by two persons.

Ex.5 Rohan ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class ?

   (1) 31   (2) 32   (3) 33   (4) 34

Sol. Clearly, the whole class consists of :

(i) 6 students who have ranks higher than Rohan;

(ii) Rohan; and

(iii) 25 students who have ranks lower than Rohan, i.e., (6 + 1 + 25) = 32 students. Hence, the answer is (2).

Ex.6 Manik is fourteenth from the right end in a row of 40 boys. What is his position from the left end ?

   (1) 24th   (2) 25th   (3) 26th   (4) 27th

Sol. Clearly, number of boys towards the left of Manik = (40 – 14) = 26.

So, Manik is 27th from the left end.

Hence, the answer is (4).

Ex.7 In a row of boys facing the North, A is sixteenth from the left end and C is sixteenth from the right end. B, who is fourth to the right of A, is fifth to the left of C in the row. How many boys are there in the row ?
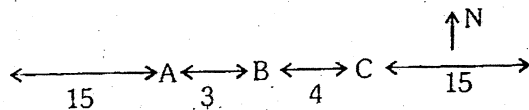
   (1) 39   (2) 40   (3) 41   (4) 42

Sol. Clearly, according to the given conditions, there are 15 boys to the left of A, as well as to the right of C. Also, B lies between A and C such that there are 3 boys between A and B; and 4 boys between B and C.

so, number of boys in the row = (15 + 1 + 3 + 1 + 4 + 1 + 15) = 40

Hence, the answer is (2)

TIME SEQUENCE TEST

To solve time based problems the following informations are very useful.

➤ In every 1 hour, the hour hand rotates 30° and the minute hand rotates 360°.

➤ The year which is divisible by 4 is called a leap year. E.g. year 2012 is a leap year.

➤ A century year which is divisible by 400 is called a leap year. E.g. 2000 is a leap year but 2100 is not.

➤ There are 29 days in February of a leap year.

➤ 1 century = 100 years.

Ex.8 Satish remembers that his brother's birthday is after fifteenth but before eighteenth of February whereas his sister Kajal remembers that her brother's birthday is after sixteenth but below nineteenth of February. On which day in February is Satish brother's birthday ?

   (1) 16th   (2) 17th   (3) 18th   (4) 19th

Sol. According to Satish, the brother's birthday is on one of the days among 16th and 17th February. According to Kajal, the brother's birthday is one of the days among 17th and 18th February. Clearly, Satish's brother's birthday is on the day common to both the above groups i.e., 17th February.

Hence, the answer is (2).

Ex.9 A bus for Delhi leaves every thirty minutes from a bus stand. An enquiry clerk told a passenger that the bus had already left ten minutes ago and the next bus will leave at 9.35 a.m. At what time did the enquiry clerk give this information to the passenger ?

    (1) 9.10 a.m   (2) 8.55 a.m.   (3) 9.08 a.m.   (4) 9.15 a.m.

Sol. The next bus will leave at 9.35 a.m. This means that the previous bus had left at 9.05 a.m. But it happened ten minutes before the clerk gave the information to the passenger. Thus, the enquiry clerk gave the information at 9.15. Hence, the answer is (4).

Ex.10 If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month ?

    (1) Sunday   (2) Monday   (3) Wednesday   (4) Friday

Sol. As mentioned, the seventh day of the month is three days earlier than Friday, which is Tuesday. So, the fourteenth day is also Tuesday and thus, the nineteenth day is Sunday. Hence, the answer is (1).

1. In the following series of number's find out how many times, 1,3 and 7 have appeared together, 7 being in the middle and 1 & 3 on either side of 7 ?

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

    (1) One　　　　(2) Two　　　　(3) Three　　　　(4) Four

2. In the following number series how many 8's are there which are exactly divisible by the numbers which are preceded and followed by it ?

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

    (1) 1　　　　(2) 2　　　　(3) 3　　　　(4) 4

3. How many 5's are there in the following sequence of numbers which are immediately preceded by 7 ?

    8 9 5 3 2 5 3 8 5 5 6 8 7 3 3 5 7 7 5 3 6 5 3 3 5 , 7 3 8

    (1) One　　　　(2) Two　　　　(3) Three　　　　(4) Four

4. How many 8's are there in the following sequence which are immediately preceded by 6 but not immediately followed by 5 ?

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

    (1) One　　　　(2) Two　　　　(3) Three　　　　(4) Four

5. In a series given below count each 5 which is not immediately preceded by 3 but immediately followed by 7. How many such 5's are there?

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

    (1) 4　　　　(2) 3　　　　(3) 5　　　　(4) 2

6. How many 6's are there in the following series of numbers which are preceded by 7 but not immediately followed by 9?

    6 7 9 5 6 9 7 6 8 7 6 7 8 6 9 4 6 7 7 6 9 5 7 6 3

    (1) One　　　　(2) Two　　　　(3) Three　　　　(4) Four

7. In the following Colour sequence, R stands for Red, Y for Yellow, G for Green, B for Blue and W for White of the sequence is continued, which colour will come next?

    B B R B R W B R W G B R W G Y B R B R W B R W.

    (1) Yellow　　　　(2) White　　　　(3) Blue　　　　(4) Green

8. The positions of how many digits in the number 321465987 will remain same when the digits are arranged in ascending order?

    (1) Three　　　　(2) One　　　　(3) Two　　　　(4) None

9. If it is possible to make a number which is perfect square of a two-digit odd number with the second, the sixth and the ninth digits of the number 187642539, which of the following is the digit in the unit's place of that two-digit odd number ?

    (1) 1　　　　　　　　　　(2) 7
    (3) 9　　　　　　　　　　(4) No such number can be made

10. What will be the middle digit of the middle number after the following numbers are arranged is descending order?

    267, 197, 678, 129, 259

    (1) 6　　　　(2) 9　　　　(3) 2　　　　(4) 5

Direction (Q.11 to Q.13) : The digits of each of the following five numbers are written in reverse order and five new numbers are obtained:

    513 726 492 865 149

11. Which of the following will be the middle digit of the third number from the top when the new numbers are arranged in descending order?

    (1) 1　　　　(2) 2　　　　(3) 6　　　　(4) 9

12. Which of the following original numbers retains the same position from the top when arranged in descending order even after the positions of the digits are reversed?

(1) 149   (2) 492   (3) 513   (4) 726

13. Which of the following will be the third digit of the second highest new number?

(1) 1   (2) 5   (3) 7   (4) 8

14. Mohan is 18th from either end of a row of boys ? How many boys are there in that row ?

(1) 26   (2) 32   (3) 24   (4) 35

15. In a class of 60 where boys are twice that of girls, Ramya ranked 17th from the top. If there are 9 boys ahead of Ramya, how many girls are after her in the rank ?

(1) 26   (2) 12   (3) 10   (4) 33

16. In an examination Raj got more marks than Moti but not as many as Meena. Meena got more marks than Ganesh and Rupali. Ganesh got less marks than Moti but his marks are not the lowest in the group. Who is second in the descending order of marks ?

(1) Meena   (2) Rupali   (3) Raj   (4) None of these

17. Among A,B,C,D, B is heavier than A and C but C is taller than him. D is not as tall as C, while A is the shortest. C is not as heavy as A. D is heavier then B but shorter then him. Who is the heaviest?

(1) B   (2) A   (3) D   (4) C

18. In a row of five persons, A is next to B. E is on the right side of A who has D on his left side. C and B do not sit together. Who are sitting on the two ends of the row?

(1) C and E   (2) A and D   (3) B and C   (4) C and A

19. A rank 5th in the class. B is 8th from the last. If C 6th after A and just in the middle of A and B. How many students are there in the class?

(1) 25   (2) 26   (3) 23   (4) 24

20. Babloo ranked 16th from the top and 29th from the bottom among those who passed an examination. 6 boys did not participate in the competition and 5 failed in the examination. How many boys were there in that class ?

(1) 44   (2) 40   (3) 50   (4) 55

21. Indra is 7th from the left and Jaya is 5th from the right. When they interchange their position Jaya becomes 19th from the right. What is Indra's position from the left ?

(1) 21st   (2) 19th   (3) 23rd   (4) 20th

22. An application was received by inward clerk in the afternoon of a weekday. Next day he forwarded it to the table of the senior clerk, who was on leave that day. The senior clerk next day evening put up the application to the desk officer. Desk officer studied the application and disposed off the matter on the same day, i.e., Friday. Which day the application was received by the inward clerk ?

(1) Tuesday   (2) Earlier week's Saturday

(3) Wednesday   (4) Monday

23. If 12th day of a month is Friday then what is the day 30th day of the same month?

(1) Tuesday   (2) Thursday   (3) Friday   (4) Saturday

Directions (Q.24 to Q.30) : Study the following information to answer the given questions :

(i) In a class of boys and girls, Amar's rank is 12th and Meeta's rank is 8th.

(ii) Amar's rank among the boys is 6th and Meeta's rank among girls is 3rd.

iii) In the class Meeta's rank is 52th from the other end.

(iv) From the other end, Amar's rank among the boys is 26th.

24. How many boys are there in the class ?

(1) 31   (2) 28   (3) 29   (4) Can't be determined

25. Which of the following is Meeta's rank among the girls from the other end ?
(1) 23rd   (2) 28th   (3) 26th   (4) Can't be determined

26. How many boys are there before Meeta ?
(1) 4   (2) 5   (3) 3   (4) Can't be determined

27. How many boys are there between Amar and last rank (assuming it is a girl) in the class ?
(1) 25   (2) 47   (3) 22   (4) Can't be determined

28. How many boys are there between Amar and Meeta ?
(1) One   (2) Two   (3) Three   (4) None of these

29. How many girls are there before Amar ?
(1) 5   (2) 6   (3) 7   (4) Can't be determined

30. How many girls are there between Meeta and Amar ?
(1) One   (2) Two   (3) Three   (4) Can't be determined

EXERCISE   **ANSWER KEY**

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

Que.	21	22	23	24	25	26	27	28	29	30
Ans.	1	3	1	1	3	2	1	4	2	3