AILET

Learn to Solve Logical Series For CLAT

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A number of events, objects, or people of a similar or related kind coming one after another constitute a series.

There is a pattern or relationship between any two successive terms of a series that determines the terms that follow. Your task will be to ascertain the logical relation between the terms of a given series in the question and calculate the answer accordingly.

Over the years, CLAT exams have featured three broad categories of series, viz., numerical series, alphabetical series and word series.



NUMERICAL SERIES

Before we begin with the illustrations, let us brush up on some basic formulae and series that can prove helpful in solving number series.

Series you must know:

- Odd/ Even

(i) Series of odd numbers:1,3,5,7,....

(ii) Series of even numbers: 2,4,6,8,...

- Increasing/Decreasing series

(i) **Series of increasing numbers:**

1. A series can increase when a number is added to every term. For example: 17, 22,32,47,...In this series, each term increases by a multiple of 5. 17+5 = 22, 22+10 = 32, 32+ 15 = 47 and so on.
2. A series can also increase when a number is multiplied to every term. For example: 2, 4, 8, 16...etc. In this series, each term is being multiplied by the number 2 in order to obtain the following term.

(ii) **Series of decreasing numbers:**

1. A series can decrease when a number is being subtracted from successive terms. For example: 100, 97, 92, 85,..etc. in this series, odd numbers starting from 3 are being subtracted in order to obtain the successive term. 100-3 = 97, 97-5 = 92 and so on.
2. A series can decrease when each term is being divided in order to obtain the successive term. For example: 500, 250, 125, 52.5,...etc. In this series, each term is being successively divided by 2.

- Arithmetic progression (AP)

A sequence of the form → a, a + d, a + 2d, a + 3d, a + 4d, ... a, a + d, a + 2d, a + 3d, ... upto n terms refers to an arithmetic progression. The n-th term is [a + (n − 1)d].

Where, a: first term ; d: common difference; n: number of terms.

For example: 1, 5, 9, 13, 17... forms an AP with a = 1, d = 4.

- Geometric progression (GP)

A geometric progression is a series where each term is multiplied successively by a number in order to obtain the next term. The quotient of two consequtive terms is always the same and it is known as the common ratio (r).

For example: 2, 6, 18, 54,... . In this series, a = 2, r = 3.

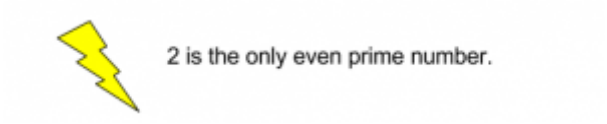
The series is of the form: a, ar, ar^2, ar^3,... and so on.

- Prime number series

Prime numbers are those numbers which have only two divisors, 1 and the number itself.

You are advised to go through the list of prime numbers from 1 to 100.

1, 2, 3, 5, 7, 9, 11, 13, 17, 19, 23 and so on.



- Fibbonachhi series

It is a series of numbers in which each number (*Fibonacci number*) is the sum of the two preceding numbers. The simplest is the series 1, 1, 2, 3, 5, 8, etc.

Now let us proceed to certain examples for better understanding:

Example 1. Examine the following numbers and identify the next number: [CLAT 2016]

45, 43, 40, 36, 31, 25, ...

1. 23
2. 29
3. 17
4. 18

Explanation: In the above series, numbers starting from 2 are being successively subtracted.

45-2 = 43, 43-3 = 40, 40-4 = 36, 36-5 =31, 31-6 = 25, 25-7= 18.

Answer: (d) 18.

Example 2. 0,3,8,15... [CLAT 2014]

1. 24
2. 26
3. 35
4. none

Explanation: In this series, odd numbers are being added successively. 0+3 = 3, 3+5= 8, 8+7= 15, 15+9= 24.

Answer: (a)

Example 3. POQ, SRT, VUW,... [CLAT 2014]

1. XYZ
2. XZY
3. YZX
4. YXZ

Explanation: In all the terms of the series, the first two alphabets have been interchanged. The alphabet O comes before P but it has been put in second place. Similarly, X comes before Y but should be put in the second place. Hence, the answer will be YXZ.

Answer: (d)

Example 4 : B, C, E, G, K, M, Q, S,_____ [CLAT 2011]

What is the next alphabet in this sequence?

(a) T

(b) U

(c) V

(d) W

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
Z	Y	X	W	V	U	T	S	R	Q	P	O	N
26	25	24	23	22	21	20	19	18	17	16	15	14

By matching the alphabets to their corresponding numerical values, it can be seen that the sequence of prime numbers is being followed. The next prime number after 19 (S) is 23. Hence, the next alphabet should be W.

Answer: (d)

Example 5. Z, X, T, N,_____ [CLAT 2011]

What is the next alphabet in this sequence?

(a) E

(b) F

(c) G

(d) H

Explanation: Even numbers starting from 2 are being subtracted successively. 26 (Z) -2= 24 (x), 24(X) – 4= 20 (T), 20(T) – 6 = 14(N), 14(N) – 8= 6 (F)

Answer: b

Example 6. 'Apple, Application,_____, Approval, Apricot, April' [CLAT 2011]

Which of the following best film in the blank?

(a) Arrogant

(b) April

(c) Appropriate

(d) Apiary.

Explanation: Since till the fourth word, words with 'pp' are being used, therefore, the word here should be appropriate.

Answer: (c)

Example 7.: 'Gym, hymn, lynx, pygmy, rhythm' [CLAT 2011]

Which of the following words does not belong to the above set?

(a) Myrrh

(b) Mythic

(c) Flyby

(d) Syzygy

Explanation: The words given in the series have either 1 or 2 ys'. The word 'syzygy' has 3 ys.

Answer: (d)

Example 8:. 2,3,4,6,7,8,9,11,12,13,14,15,17,18,19,20,21 ? [CLAT 2010]

1. 22
2. 23
3. 24
4. 25

Explanation: On observing the series we notice that the term after every 3rd, 4th, 5th… term is being skipped.

2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

The next term will be skipped after 6 terms. Hence, 22 will be next.

Answer: (a)

This article is posted in association with clatapult.com.

First published on January 9, 2021.