Series

LOGICAL REASONING

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Series

A series is a continuous sequence of numbers and letters which is obtained from some similarities. Applying that similarities to find out the next term of the given series.

Number Series

In this section, A series of numbers are given in a certain similarities between them and one number is missing. You have to find out the similarities between the series and choose the next number from the given alternatives.

Missing Number Series

A series of numbers are given in a certain similarities between them and one number is missing, aspirants have to find out that missing number.

The most common operation used are:

I. Addition/Subtraction with the constant numbers:

Example:

21, 26, 22, 27, 23, ?

21 + 5 = 26,

26 - 4 = 22,

22 + 5= 27,

27 - 4 = 23,

Similarly,

23 + 5 = 28.

Hence, the next number is 28.

II. Multiplication/Division with the constant numbers:

Example:

12, 24, 6, 12, 3, ?

12 × 2 = 24,

24 ÷ 4 = 6,

6 × 2 = 12,

12 ÷ 4 = 3,

Similarly,

3 × 2 = 6.

Hence, the next number is 6.

III. Square/Cube with the constant numbers:

Example:

2, 6, 15, 31, ?

$2 + 2^2 = 2 + 4 = 6$,

$6 + 3^2 = 6 + 9 = 15$,

$15 + 4^2 = 15 + 16 = 31$,

Similarly,

31 + 52 = 31 + 25 = 56.

Hence, the next number is 56.

IV. Odd/Even/Prime number with the constant series:

[Even Numbers: All the numbers which is divisible with 2 is called Even number. Ex - 2, 4, 6, 8, 10, 12, 14, …….].

[Odd Numbers: Those Numbers which is not divisible with 2 is called Odd number. Ex – 1, 3, 5, 7, 9, …….].

[Prime Number: The number which is divisible with 1 and itself only is called Prime number. Ex – 2, 3, 5, 7, 11, 13, 17, 19, 23, …….].

Example:

23, 25, 28, 33, 40, ?
23 + 2 = 25,
25 + 3 = 28,
28 + 5 = 33,
33 + 7 = 40,
Similarly,
40 + 11 = 51.
Hence, the next number is 51.

Q. : What will come in place of the blank in the series?

23, 31, 41, 47, _____

59 63 47 57

A. Solution:

The pattern followed here is:
The given series is a list of prime numbers in increasing order.
Among the given options, only 59 is a prime number.
Hence, 59 is the correct answer.

Q. : A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

5, 26, 17, 124, ?

A. Solution:

The pattern followed here is,
22 + 1 = 5,
33 -1 = 26,
42 + 1 = 17,
53 -1 = 124,
62 + 1 = 37,
Hence, 37 is the correct answer.

Wrong Number Series

A series of numbers are given in a certain similarities between them and one number is wrong from that series, aspirants have to find out that wrong number.

The most common operation used are:

I. Addition/Subtraction with the constant numbers:

Example:

31, 26, 30, 26, 29, 24

31 - 5 = 26,

26 + 4 = 30,

30 - 5= 25 ≠ 26,

25 + 4 = 29,

29 - 5 = 24.

Hence, the wrong number is 26.

II. Multiplication/Division with the constant numbers:

Example:

12, 12, 24, 72, 278, 1440

12 × 1 = 12,

12 × 2 = 24,

24 × 3 = 72,

72 × 4 = 288 ≠ 278,

288 × 5 = 1440.

Hence, the wrong number is 278.

III. Square/Cube with the constant numbers:

Example:

81, 121, 169, 279, 361

$81 = 9^2$,

$121 = 11^2$,

$169 = 13^2$,

$279 \neq 289 = 17^2$,

$361 = 19^2$,

Hence, the wrong number is 279.

IV. Odd/Even/Prime number with the constant series:

[Even Numbers: All the numbers which is divisible with 2 is called Even number. Ex - 2, 4, 6, 8, 10, 12, 14, …….].

[Odd Numbers: Those Numbers which is not divisible with 2 is called Odd number. Ex – 1, 3, 5, 7, 9, …….].

[Prime Number: The number which is divisible with 1 and itself only is called Prime number. Ex – 2, 3, 5, 7, 11, 13, 17, 19, 23, 27, …….].

Example:

17, 19, 22, 27, 35, 45

17 + 2 = 19,

19 + 3 = 22,

22 + 5 = 27,

27 + 7 = 34 ≠ 35

34 + 11 = 45.

Hence, the wrong number is 35.

Q. : Identify the number that does NOT belong to the following series.

2, 6, 14, 30, 62, 126, 250

A. Given series: 2, 6, 14, 30, 62, 126, 250

The pattern followed here is,

(2 + 1) × 2 = 6,

(6 + 1) × 2 = 14,

(14 + 1) × 2 = 30,

(30 + 1) × 2 = 62,

(62 + 1) × 2 = 126,

(126 + 1) × 2 = 254 ≠ 250,

So, instead of ‘250’, it should be ‘254’.

Hence, ‘250’ is the wrong term in the series.

Q. Find the wrong term in the given number series:

34, 32, 35, 33, 36, 37

A. Solution:

34 – 2 = 32,

32 + 3 = 35,

35 – 2 = 33,

33 + 3 = 36,

36 – 2 = 34 ≠ 37,

Therefore, 37 is the wrong term.

Hence, 37 is the correct answer.

Letter Series

In this section, A series of letters are given in a certain similarities between them and one letter is missing. You have to find out the similarities between the series and choose the next letter from the given alternatives.

Missing Letter Series

A series of letters are given in a certain similarities between them and one letter is missing, aspirants have to find out that missing letter.

The most common operation used are:

I. Addition/Subtraction with the constant letters:

Example:

Z, A, C, G, O, ?

Z + 1 = A,

A + 2 = C,

C + 4 = G,

G + 8 = O,

Similarly,

O + 16 = E.

Hence, the next letter is E.

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

Example:

BY, FU, GT, LO, V?

B is reverse letter of Y,

F is reverse letter of U,

G is reverse letter of T,

L is reverse letter of O,

Similarly,

V is reverse letter of E,

Hence, the missing letter is E.

III. Repetition of letters:

Example:

bo_b_y_oy_o_

boy → boy/boy/boy/boy

Q. : Choose the most appropriate option to complete the following series.

WPM, TMJ, QJG, NGD, ___

A. The pattern is as follows:

Hence, "KDA" is the correct answer.

Q. Select the letter-cluster that can replace the question mark (?) in the following series.

CDKR, ZGHU, ?, TMBA

A. The pattern followed is,

Hence, “WJEX” is the correct answer.

Wrong Number series

A series of letters are given in a certain similarities between them and one letter is wrong from that series, aspirants have to find out that wrong letter.

The most common operation used are:

I. Addition/Subtraction with the constant letters:

Example:

V, X, A, F, J, P

V + 2 = X,

X + 3 = A,

A + 4 = E ≠ F

E + 5 = J,

J + 6 = P.

Hence, the wrong letter is F.

II. Reverse/Place value of the letters:

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

Example:

CX, MN, HS, KO, DW

C is reverse letter of X,

M is reverse letter of N,

H is reverse letter of S,

K is reverse letter of P ≠ O

Similarly,

D is reverse letter of W,

Hence, the wrong term is KO.

Q. Select the letter-cluster which is INCORRECT in the given series.

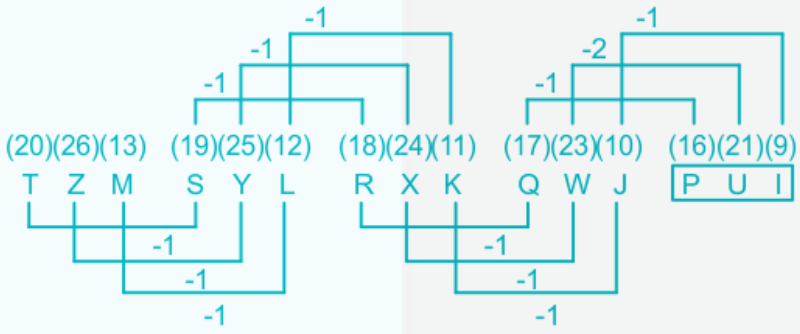
TZM, SYL, RXK, QWJ, PUI

A. The pattern followed here is :

First element : -1, -1, -1, -1

Second element : -1, -1, -1, -1

Third element : -1, -1, -1, -1



Therefore, the last term of the series should be PVI.

Hence, the incorrect term of the series is PUI.

Q. Two letters in the given letter series are in brackets. Which of the given bracketed letters are correct?

D, Y, F, W, (H), U, J, (T), L

A. Pattern followed here is:

Two different series are given in this question.

1st series □ D + 2 = F, F + 2 = H, H + 2 = J, J + 2 = L

2nd series □ Y – 2 = W, W – 2 = U, U – 2 = S

In the second bracket, alphabet S should be there instead of T.

Hence, the first bracketed letter is correct but the second bracketed letter is incorrect.

Letter and Number Based Series

A series of letters and numbers are given in a certain similarities between them and one letter cluster is wrong from the given series, aspirants have to find out that wrong or missing letter cluster.

The most common operation used are:

Addition/Subtraction with combination of Letters and Numbers:

Example:

7PK9, 11QL13, 15RM17, ?

7 + 4 = 11, P + 1 = Q, K + 1 = L, 9 + 4 = 13,

11 + 4 = 15, Q + 1 = R, L + 1 = M, 13 + 4 = 17,

15 + 4 = 19, R + 1 = S, M + 1 = N, 17 + 4 = 21,

Hence, 19SN21 is the next series.

Q. Find the next term in the series.

11PK16, 9RI18, 7TG20, _____.

A. The pattern followed is,

Hence, “5VE22” is the correct answer

General Knowledge Based Series

In this section, A series of words are given in a certain similarities between them and one word is missing. You have to find out the similarities between the series and choose the next word from the given alternatives.

Q. Select the correct alternative from the given ones that will complete the series.

Uranium, Cesium, Radium, Polonium, ?

1) Technetium 2) Magnesium 3) Manganese 4) Plumbum

A. Logic: List of Radioactive elements.

Hence, Technetium is the correct answer.

Q. : A series is given with one term missing. Select the correct alternative from the given options that will complete the series.

Spice, Aspire, Mask, Grasp, ?

1) Translate 2) Option 3) Series 4) Reason

A. Given series: Spice, Aspire, Mask, Grasp, ?

Logic: With each word, the position of 'S' is shifted to one place forward.

Spice, Aspire, Mask, Grasp

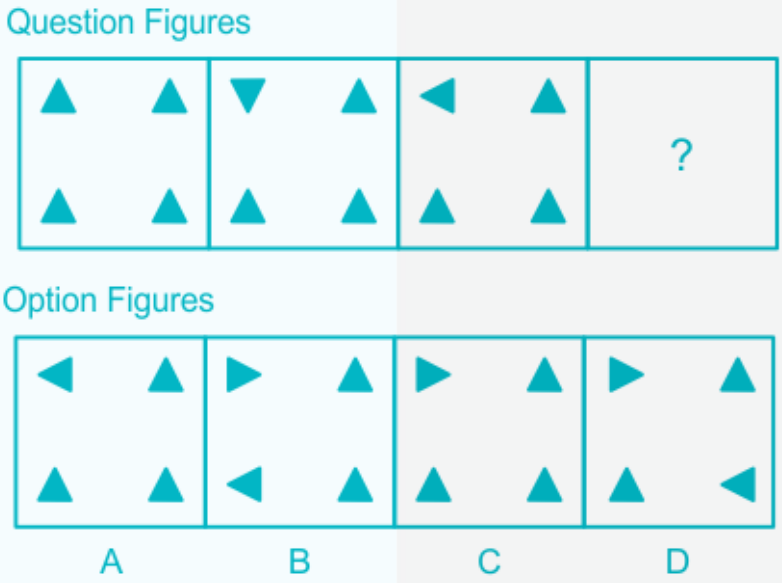
So, in the next word, 's' should be the fifth letter.

Hence, 'Translate' is the correct answer.

Image Based Series

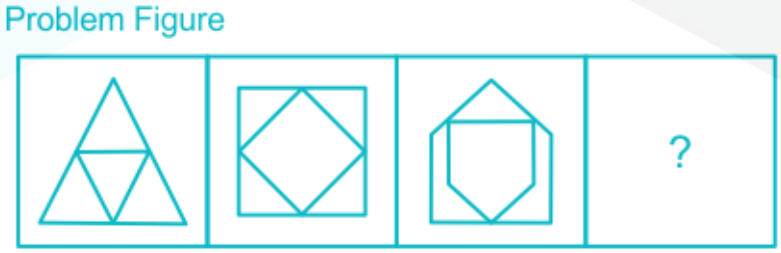
In this section, A series of images are given in a certain similarities between them and one images is missing or wrong. You have to find out the similarities between the series and choose the missing or wrong image from the given alternatives.

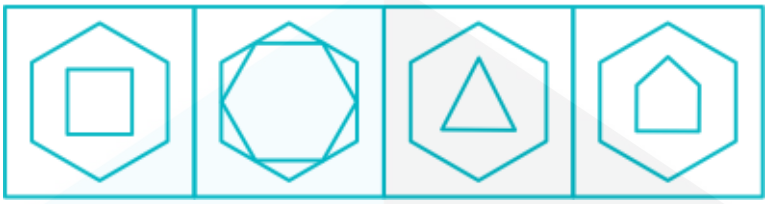
Q. Select the option figure that will complete the series of question figures.



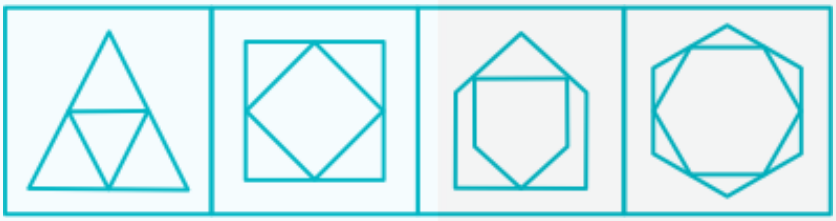
A. In figure 2 only the first triangle of figure 1 changes its orientation.
Similarly,
In figure 4 the first triangle of figure 3 will change its orientation.
.Hence, figure C is the correct answer

Q. Select the figure that will come next in the following figure series :





A. The number of sides of inner figure are same as number of sides of outer figure.



In first figure there is a triangle inside a triangle. In the second figure, a square is added inside the square. Further in each consecutive figure, a geometric figure is added with a side more than previous figure. Such as in

Figure 2 – Square inside square

Figure 3 – Pentagon inside pentagon

Figure 4 – Hexagon inside hexagon

Thus, in the figure that will replace question mark, a hexagon inside a hexagon.

Hence, figure 2 will replace the question mark.