A series is a sequence of numbers/alphabetical letters or both which follow a particular rule. Each element of Types of series are explained in the following chart:
series is called 'term'. We have to analyse the pattern and find the missing term or next term to continue the pattern.



In number series, relationship between the terms is of any kind. For example.
(1) Consecutive even numbers
(2) Consecutive odd numbers
(3) Consecutive prime numbers
(4) Square of numbers
(5) Cubes of numbers
(6) Square root of numbers
(7) Omission of certain number of letter in any consecutive' order
(8) Addition /subtraction/ multiplication/ division by some number (For Ex. A.P \& G.P) or any other relation.

## TYPES OF QUESTIONS:

(I) Complete the series
(II) Find Missing number of the series
(III) Find Wrong number of the series

## EXAMPLES ON NUMBER SERIES

## (I) Complete the series

## EXAMPLE1. Which of the following is the next term of series given below?

4, 6, 9, 13
(a) 17
(b) 18
(c) 19
(d) 20

Sol. (b) $4 \underbrace{6} \underbrace{13}$ 18 Correct answer

$$
+2 \quad+3 \quad+4 \quad+5
$$

EXAMPLE2. Choose the next term of series given
(a) 0
(b) 1
(c) 2
(d) 4

Sol. (d) Each number is half of its previous number.
(II) To find the missing number of series:

## EXAMPLE3. What will come in place of question

 mark in the following series? 79, 87, ? , 89, 83(a) 80
(b) 81
(c) 82
(d) 88

Sol.


EXAMPLE4. What will come in place of question mark in the following series? 37, 41, ?, 47, 53
(a) 42
(b) 43 (c)
46
(d) 44

Sol. (b) Consecutive prime numbers.
EXAMPLE 5. What will come in place of question mark in the following series?

$21,34, ?, 89,144$
(a) 43
(b) 55
(c) 64
(d) 71

Sol. (b) Each number is the sum of the two preceding numbers.
$21+34=55$
$34+55=89$
$55+89=144$
(III) To find the wrong term in the series:

EXAMPLE6. Find the wrong term in the series $3,8,15,24,34,48,63$.
(a) 15
(b) 15
(c) 34
(d) 63

Sol. (c) $2^{2}-1,3^{2}-1,4^{2}-1,5^{2}-1,6^{2}-1$
EXAMPLES ON ALPHABETIC SERIES
EXAMPLE7. What will come in place of question mark in the following series?
G, H, J, M, ?
(a) R
(b) S
(c) $Q$
(d) P

Sol.


EXAMPLE8. What will come in place of question mark in the following series? BF,CH,? HO,LT
(a) FG
(b) EK
(c) CE
(d) FJ

Sol.
(b)


EXAMPLES ON ALPHA-NUMERIC SERIES
EXAMPLE9. What will come in place of question mark in the following series?
K 1, M 3, P 5, T 7, ?
(a) Y 9
(b) Y 11
(c) V 9
(d) V 11

Sol. (a) Alphabets follow the sequence


And numbers are increasing by 2

## EXAMPLES ON MIXED SERIES

## EXAMPLE10. Complete the series

Z,L,X,J,V,H,T,F, $\qquad$
(a) D,R
(b) R,D
(c) D, D
(d) R,R

Sol. (b) The given sequence consists of two series
(i) Z, X, V, T,

(ii) L, J, H, F, __ Both consisting of alternate letters in the reverse order.
$\therefore$ Next term of (i) series $=\mathrm{R}$, and
Next term of (ii) series $=\mathrm{D}$

## EXAMPLE11. What will come in place of question mark in the following series?

$7,5,26,17,63,37,124,65, ?, ?$
(a) 101,215
(b) 101,101
(c) 215,101
(d) 215,215

Sol. (c) The given series consists of two series
(i) $7,26,63,124 \ldots$
(ii) $5,17,37,65 \ldots$

In the first series,
$7=2^{3}-1,26=3^{3}-1,63=4^{3}-1,124=5^{3}-1, \quad \therefore 6^{3}-1=215$
and in the second series.
$5=2^{2}+1,17=4^{2}+1$,
$37=6^{2}+1,65=8^{2}+1$,
$\therefore 10^{2}+1=101$

## EXAMPLES ON LETTER SERIES

EXAMPLE 12. Which sequence of letters when placed at the blanks one after another will complete the given letter series?
baab-aba-bba--
(a) bbaa (b) aaaa (c) abab (d) baba

Sol. (d) $\mathrm{b} a \mathrm{a} a \underline{b} \mathrm{a} / \mathrm{b} a \underline{a} b \mathrm{ba} / \underline{b} a$.
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