ANUJJINDAL.IN

RBI PHASE 1 RECAP

30th JULY '18

REASONING – NUMBER SERIES

NUMBER SERIES

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Number series:

In number series, a series of numbers is given with one/two number missing, represented by a blank or a question mark. The given series of numbers will be such that each one follows its predecessor in a certain way i.e., according to a definite pattern. You are required to find out the way in which the series is formed and hence work out the missing number to complete the series.

Different types of Number Series:

We will classify the number series into these category:

1)) **Arithmetic Series:**

It consists of a series in which the next term is obtained by adding/subtracting a constant number to its previous term.

Example: 3, 4, 6, 9, 13, 18, __

Rule: Add 1 to the difference between two adjacent items. After the first number add 1, after the second number add 2, and after the third number add 3, etc. In this case, the missing number is 24.

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2)) Series consisting of Perfect Squares:

A series based on Perfect squares is most of the times based on the perfect squares of the numbers in a specific order & generally one of the numbers is missing in this type of series.

Example:324, 361, 400, 441, ____

Sol: $324 = 18^2$, $361 = 19^2$, $400 = 20^2$, $441 = 21^2$, $484 = 22^2$

3)) Perfect Cube Series:

It is based on the cubes of numbers in a particular order and one of the numbers is missing in the series.

Example:512, 729, 1000, ____

Sol: 8^3, 9^3, 10^3, 11^3

4)) Geometric Series:

It is based on either descending or ascending order of numbers and each successive number is obtained by dividing or multiplying the previous number by a specific number.

Example:4, 36, 324, 2916?

Sol:4 x 9 = 36, 36 x 9 = 324, 324 x 9 = 2916, 2916 x 9 = 26244.

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5)) Twin/Alternate Series:

As the name of the series specifies, this type of series may consist of two series combined into a single series. The alternating terms of this series may form an independent series in itself.
Example: 3, 4, 8, 10, 13, 16, _____
Sol: As we can see, there are two series formed
Series 1: 3, 8, 13 with a common difference of 5
Series 2: 4, 10, 16 with a common difference of 6
So, next two terms of the series should be 18 & 22 respectively.

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Q.1) Find the missing number:
2, 8, 18, 32, 50, ____
[a] 84
[b] 72
[c] 74
[d] 82

Solution (b)
2% of 100 =2
4% of 200 = 8
6% of 300 = 18
8% of 400 = 32
10% of 500 = 50
12% of 600 = 72 (ans.)

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Q.2) Find the missing number:
19, 20, 23, 21, 29, 22, ____
[a] 31
[b] 33
[c] 32
[d] 34

Solution
Numbers on odd places are prime numbers started with 19 as
19, 23, 29, 31
Numbers on even places are composite numbers started with 20 as
20, 21, 22
Prime number after 29 is 31.
Hence answer is 31

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Q.3) Find the missing number:
1848, ___, 2022, 2112, 2204
[a] 1934
[b] 1935
[c] 1936
[d] 1937

Solution (a)
$43^2 - 1 = 1848$
$44^2 - 2 = 1934$ (ans.)
$45^2 - 3 = 2022$
$46^2 - 4 = 2112$
$47^2 - 5 = 2204$

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Q.4) Find the missing number:
___, 66, 726, 7986, 87846
[a] 60
[b] 10
[c] 16
[d] 6

Solution (d)
6
6x11 = 66
66x11 = 726
726 x 11 = 7986
7986 x 11 = 87846

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Q.5) Find the missing number:
26, 60, ____, 261, 531
[a] 120
[b] 126
[c] 128
[d] 162

Solution (b)
26
26 x 2 + 8 (2+6) = 60
60 x 2 + 6 (6+0) = 126 (ans.)
126 x 2 + 9 (1+2+6) = 261
261 x 2 + 9 (2+6+1) = 531
531 x 2 + 9 (5+3+1) = 1071

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Q.6) Find the missing number:
1727, 3371, 5825, 9262, ____
[a] 13822
[b] 13922
[c] 14822
[d] 15222

Solution (a)
Series is based on the cube of the numbers subtracting by the difference of the number itself (ones' place number by tens place number)
12^3 -1 (2-1) = 1727
15^3 – 4 (5-1) = 3371
18^3 – 7 (8-1) = 5825
21^3 – (-1) (1-2) = 9262
24^3 – 2 (4-2) = 13822 (ans.)
(each cube digit added with 3 to become the next cube number)

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Q.7) Find the missing number:
4319, ____, 143, 35, 11, 5
[a] 619
[b] 819
[c] 719
[d] 919

Solution (c)
Solve this question backwardly.
5x 1 +0 = 5
5 x 2 +1 = 11
11 x 3+ 2= 35
35 x 4+3 = 143
143 x 5 + 4 = 719 (ans.)
719 x 6 + 5 = 4319