

## Numbers Aptitude Questions and Answers Pdf

1.  $106 \times 106 - 94 \times 94 = ?$

a. 2400

b. 2000

c. 1904

d. 1906

Ans: A

$$\begin{aligned}(106 \times 106 - 94 \times 94) &= (106)^2 - (94)^2 \\ &= (106 + 94)(106 - 94) = (200 \times 12) = 2400.\end{aligned}$$

2.  $397 \times 397 + 104 \times 104 + 2 \times 397 \times 104 = ?$

a. 250001

b. 251001

c. 260101

d. 261001

Ans: B

$$\begin{aligned}\text{Given Expression} &= (397)^2 + (104)^2 + 2 \times 397 \times 104 \\ &= (397 + 104)^2 = (501)^2 = (500 + 1)^2 \\ &= (500)^2 + 1^2 + 2 \times 500 \times 1 = 250000 + 1 + 1000 = 251001.\end{aligned}$$

3. The sum of four consecutive even numbers A, B, C and D is 180. What is the sum of the set of next four consecutive even numbers?

a. 169

b. 204

c. 212

d. 214

Ans: C

Let the four consecutive even numbers be  $a, a + 2, a + 4$  and  $a + 6$ .

Then,  $a + a + 2 + a + 4 + a + 6 = 180 \Rightarrow 4a = 168$   
 $\Rightarrow a = 42$ .

So, these numbers are 42, 44, 46 and 48.

Sum of next four consecutive even numbers =  $(50 + 52 + 54 + 56) = 212$ .

4. The numbers 1, 3, 5, 7, ..., 99 and 128 are multiplied together. The number of zeros at the end of the product must be

a. Nil

b. 7

c. 19

d. 22

Ans: B

Let  $N = (1 \times 3 \times 5 \times 7 \times \dots \times 99) \times 128$ .

Clearly,  $N$  contains 10 multiples of 5 (5, 15, 25, 35, ..., 95) and only one multiple of 2 i.e. 128 or  $2^7$ .

Clearly, highest power of 5 in  $N$  is greater than that of 2.

Number of zeros in  $N = \text{Highest power of 2 in } N = 7$ .

5. 111, 111, 111, 111 is divisible by

a. 3 and 37 only

b. 3, 11 and 37 only

c. 3, 11, 37 and 111 only

d. 3, 11, 37, 111 and 1001

Ans: D

Sum of all digits = 12, which is divisible by 3. So, the given number is divisible by 3.

(Sum of digits at odd places) – (Sum of digits at even places) = 6 – 6 = 0.

So, the given number is divisible by 11.

The given number when divided by 37 gives 3003003003.

So, the given number is divisible by 37.

The given number when divided by 111 gives 1001001001.

Clearly, it is divisible by 111 as well as by 1001.

Hence, the given number is divisible by each one of 3, 11, 37, 111 and 1001.