

## Number System Questions and Answers for IBPS Bank Exams

### Question: 1

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

(A) 250001

(B) 251001

(C) 260101

(D) 261001

Ans: B

$$\text{Given expression} = (397)^2 + (104)^2 + 2 \times 397 \times 104$$

$$= (397 + 104)^2 = (501)^2 = (500 + 1)^2$$

$$= (500)^2 + 1^2 + 2 \times 500 \times 1 = 250000 + 1 + 1000 = 251001.$$

### Question: 2

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) 2

(B) 5

(C) 6

(D) 7

Ans: D

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

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

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

$\therefore$  Number of zeros in N = Higher power of 2 in N = 7.

### Question: 3



Sum of its digits =  $(5 + 2 + 3 + 7 + 1) = 18$ , which is divisible by 3.

So, the given number is divisible by 3.

And, since 5 and 3 are co-primes.

So the given number is divisible by  $(5 \times 3)$  i.e., 15.

**Question: 5**

**$(x^n - a^n)$  is divisible by  $(x - a)$**

(A) for all values of  $n$

(B) only for even values of  $n$

(C) only for odd values of  $n$

(D) only for prime values of  $n$

Ans: A

We know that  $(x^n - a^n)$  is always divisible by  $(x - a)$  for all values of  $n$ .

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