

Quantitative Ability – 1

Number System

There is a two-digit number, which is equal to the sum of the squares of its digits.
What is the sum of the digits of that number?

- (a) 7
- (b) 5
- (c) 8
- (d) Such a number is not possible

Convert 2.52145145145... into a fraction.

(a) $\frac{25398}{9990}$

(b) $\frac{25893}{9900}$

(c) $\frac{25139}{9900}$

(d) $\frac{251893}{99900}$

Let x , y and z be arbitrarily chosen distinct prime numbers, where $x < y < z$. Which of the following options is necessarily false?

(a) $\frac{x+y}{z} \geq 1$

(b) $x^2y + \frac{y+z}{x}$ is odd when $x > 2$

(c) $\frac{x^3+3y}{z}$ is even

(d) None of these

Which of the following numbers is exactly divisible by 99?

- (a) 3572403 (b) 135732
(c) 913464 (d) 114345

How many natural numbers are there between 200 and 400 which are divisible by

I. both 4 and 5 ?

II. 4 or 5, or 8 or 10 ?

(a) 9, 79

(b) 10, 80

(c) 9, 81

(d) 10, 81

A two-digit number 'ab' is six times the sum of its digits. Find the value of a^b .

(a) 625

(b) 81

(c) 1024

(d) 3025

If a natural number 'N' is decreased by the sum of its digits, then the resulting number is 'M'. If 'M' is increased by the sum of its digits, then the resulting number is 'N'. Find the largest such three-digit number N.

(a) 998

(b) 999

(c) 990

(d) 996

How many four-digit numbers 'pqrs' exist such that both 'pq' and 'rs' are distinct two-digit perfect squares?

(a) 30

(b) 32

(c) 42

(d) 20

What is the units digit of $1^{781} + 2^{781} + 3^{781} + \dots + 9^{781}$?

(a) 5

(b) 3

(c) 1

(d) 7

Find the last two digits of the number

$$N = 299^{33}.$$

(a) 01

(b) 81

(c) 89

(d) 99

What is the digit at the hundreds place of the number $N = (101)^9$?

- (a) 9 (b) 1 (c) 0 (d) 2

What is the digit at the tens place of the number $N=6^{117}$

- (a) 3 (b) 1 (c) 5 (d) 9



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Answer the question on the basis of the information given below.

In case of some particular dates, when written in the format 'mm/dd/yy', it is found that $(yy) = (mm) \times (dd)$.

For example: 22nd April 1988 is written as 04/22/88, where $88 = 4 \times 22$.

Between the year 1950 and 2000, what were the maximum possible number of days in a single year, in which this could have happened?

- (a) 7 (b) 6 (c) 8 (d) 9

A is a positive integer such that A is a multiple of 180 and has 40 factors. If A is less than 3000, then the value of $A/40$ is

- (a) 240 (b) 60 (c) 270 (d) 54

$A_{n,m}$ represents a set of natural numbers less than 10000, whose sum of digits is n and which are divisible by m . How many elements are there in $A_{33,6}$?

(a) 10

(b) 6

(c) 7

(d) 16

Six strings of a violin start vibrating simultaneously and they vibrate 3, 4, 5, 6, 10 and 12 times in a minute. Find

- I. After how much time will all six of them vibrate together?
- II. How many times will they vibrate together in 30 min after starting?

- (a) 60 min, 30 times
- (b) 60 s, 31 times
- (c) 60 s, 30 times
- (d) 60 min, 31 times

The highest common factor of two numbers is $5!$. Which of the following can possibly be the LCM of these two numbers, if one of the numbers is $8!$?

(a) $9! - 1 \times 8!$

(b) $9! - 2 \times 8!$

(c) $9! - 3 \times 8!$

(d) $9! - 4 \times 8!$

If $2100! = (504)^p \times q$, where q is not a multiple of 7, then find the value of p .

(a) 346

(b) 305

(c) 388

(d) 348

If A is the product of first 100 multiples of 2 and B is the product of first 10 multiples of 5, then find the number of zeros at the end of A/B .

(a) 16

(b) 18

(c) 14

(d) 12

Two numbers, x and y , are such that when divided by 6, they leave remainders 4 and 5 respectively. Find the remainder when $(x^2 + y^2)$ is divided by 6.

(a) 2

(b) 3

(c) 4

(d) 5

What is the remainder when 7^{84} is divided by 2402?

- (a) 1 (b) 6 (c) 2401 (d) 2



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What is the remainder when $74^{13} - 41^{13} + 75^{13} - 42^{13}$ is divided by 66?

(a) 2

(b) 64

(c) 1

(d) 0

What is the remainder when 53^{111} is divided by 51?

- (a) 25 (b) 9 (c) 42 (d) 26



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If $(12323)_4 \rightarrow (P)_8$, then find the value of P.

(a) 653

(b) 673

(c) 763

(d) 563

What will be the value of $(54321 - 12345) \times 100$, converted back to decimal system, if all the numbers mentioned are in base 6?

(a) 522200

(b) 420320

(c) 4153200

(d) 201600

Thanks!



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