GATE Aptitude Practice Questions
Numbers

Q.No. 1 The difference between the sum of the first $2n$ natural numbers and the sum of the first n odd natural numbers is _____.

(A) $n^2 - n$

(B) $n^2 + n$

(C) $2n^2 - n$

(D) $2n^2 + n$

Q.No. 2 The sum of two positive numbers is 100. After subtracting 5 from each number, the product of the resulting numbers is 0. One of the original numbers is_____.

(A) 80

(B) 85

(C) 90

(D) 95

Q.No. 3 The unit's place in 26591749^{110016} is _____.

(A) 1

(B) 3

(C) 6

(D) 9

Q.No. 4 The missing number in the given sequence 343, 1331, _____, 4913 is

(A) 3375   (B) 2744   (C) 2197   (D) 4096

Q.No. 5 How many integers are there between 100 and 1000 all of whose digits are even?

(A) 60   (B) 80   (C) 100   (D) 90

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Q.No. 6 The sum and product of two integers are 26 and 165 respectively. The difference between these two integers is _____ .

(A) 2   (B) 3   (C) 4   (D) 6

Q.No. 7 $\underbrace{a + a + a + \cdots + a}_{n \text{ times}} = a^2 b$ and $\underbrace{b + b + b + \cdots + b}_{m \text{ times}} = ab^2$, where a, b, n and m are natural numbers. What is the value of

$$\left(\underbrace{m + m + m + \cdots + m}_{n \text{ times}}\right)\left(\underbrace{n + n + n + \cdots + n}_{m \text{ times}}\right)?$$

(A) $2a^2 b^2$ (B) $a^4 b^4$ (C) $ab(a + b)$ (D) $a^2 + b^2$

Q.No. 8 What is the missing number in the following sequence?

$$2, \ 12, \ 60, \ 240, \ 720, \ 1440, \ \underline{\quad}, \ 0$$

(A) 2880   (B) 1440   (C) 720   (D) 0

Q.No. 9 If the number 715■423 is divisible by 3 (■ denotes the missing digit in the thousandths place), then the smallest whole number in the place of ■ is _____ .

(A) 0   (B) 2   (C) 5   (D) 6

Q.No. 10 A number consists of two digits. The sum of the digits is 9. If 45 is subtracted from the number, its digits are interchanged. What is the number?

(A) 63   (B) 72   (C) 81   (D) 90

Q.No. 11 The number of 3-digit numbers such that the digit 1 is never to the immediate right of 2 is

(A) 781   (B) 791   (C) 881   (D) 891

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Q.No. 12 The last digit of $(2171)^7 + (2172)^9 + (2173)^{11} + (2174)^{13}$ is

(A) 2   (B) 4   (C) 6   (D) 8

Q.No. 13 X is a 30 digit number starting with the digit 4 followed by the digit 7. Then the number X^3 will have

(A) 90 digits   (B) 91 digits   (C) 92 digits   (D) 93 digits

Q.No. 14 Find the smallest number y such that $y \times 162$ is a perfect cube.

(A) 24   (B) 27   (C) 32   (D) 36

Q.No. 15 The numeral in the units position of $211^{870} + 146^{127} \times 3^{424}$ is _____.

Q.No. 16 Pick the odd one out in the following:

13, 23, 33, 43, 53

(A) 23   (B) 33   (C) 43   (D) 53

Q.No. 17 The value of $\sqrt{12 + \sqrt{12 + \sqrt{12 + \cdots}}}$ is

(A) 3.464   (B) 3.932   (C) 4.000   (D) 4.444

Q.No. 18 Which number does not belong in the series below?
2, 5, 10, 17, 26, 37, 50, 64

(A) 17   (B) 37   (C) 64   (D) 26

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Q.No. 19 Fill in the missing number in the series.

   2   3   6   15   ____   157.5   630

Q.No. 20 The sum of eight consecutive odd numbers is 656. The average of four consecutive even numbers is 87. What is the sum of the smallest odd number and second largest even number?

Q.No. 21 The next term in the series 81, 54, 36, 24, … is _____

Q.No. 22 A five digit number is formed using the digits 1,3,5,7 and 9 without repeating any of them. What is the sum of all such possible five digit numbers?

(A) 6666660   (B) 6666600   (C) 6666666   (D) 6666606

Q.No. 23 What is the next number in the series?

   12   35   81   173   357   ____

Q.No. 24 If $(1.001)^{1259} = 3.52$ and $(1.001)^{2062} = 7.85$, then $(1.001)^{3321} =$

(A) 2.23   (B) 4.33   (C) 11.37   (D) 27.64

Answer Key

Q. No.	Ans.
1	B
2	D
3	A
4	C
5	C
6	C
7	B
8	B
9	B
10	B
11	C
12	B
13	A
14	D
15	7
16	B
17	C
18	C

19	45
20	163
21	16
22	B
23	725
24	D

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