

Number System Questions PDF with detailed Solutions

Number System questions are a very common type of questions asked in almost every competitive exam. These questions carry a weightage of 2-3 questions (4-6 marks) in SSC exams. To get a good rank in competitive exams, you should have a great practice of variety of questions of Number system

Here are some tips for solving Number System questions: Understand prime numbers, factors, multiples, LCM, and HCF thoroughly. Practice divisibility rules for quick checks. Tackle questions systematically, eliminating wrong choices in multiple-choice questions. Practice with previous exam papers to familiarize yourself with question patterns.

So, we have attached 10 questions of Number System for you to practice with. You should aim to solve these questions in less than half a minute for each.

Practice Questions on Number System

You can also download the Number System questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

Q:1 Find the smallest prime number that should be multiplied by 27 to make it a perfect square.

1. 3
2. 2
3. 5
4. 7

(**Difficulty: 3, Estimated Time: 20 Seconds**) A basic one! These type of questions are very common

Q:2 Find the number of prime factors of:

$$2^8 \times 3^6 \times 5^4 \times 10^5$$

1. 720
2. 980
3. 890
4. 940

(**Difficulty: 3, Estimated Time: 20 Seconds**) Try using short tricks, they will save your time

Q:3 The LCM of the two numbers is 12 times their HCF. If the product of two numbers is 8748, find the four times their HCF.

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1. 324
2. 108
3. 72
4. 36

(Difficulty: 2, Estimated Time: 10 Seconds) This was an easy one! Did you get it right?

Q:4 For what maximum value of x, the number '270375x6' will be divisible by 3?

1. 6
2. 5
3. 9
4. 3

(Difficulty: 3, Estimated Time: 20 Seconds) This was a test of your concepts!

Q:5 What is the digit in the unit place of $2018^{2018} + 2019^{2019} + 2020^{2020}$?

1. 1
2. 2
3. 3
4. 4

(Difficulty: 3, Estimated Time: 20 Seconds) We're halfway through. Have you got all your questions correct so far?

Q:6 What is the remainder of $3^{1272}/26$?

1. 0
2. 2
3. 1
4. 4

(Difficulty: 4, Estimated Time: 30 Seconds) This was a hard nut to crack, be prepared for such questions in exam!

Q:7 What is the least number when divided by 12, 16, 32 leaving a remainder of 5?

1. 111



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2. 113

3. 108

4. 101

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) If you have a good understanding, you might have wrapped it up in 10 seconds!

Q:8 Which one of the following is completely divisible by 11:

2881605, 38111071, 138455 and 49937206

1. 2881605

2. 38111071

3. 138455

4. 49937206

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was an interesting question!

Q:9 Find the number of factors of 21^{25} .

1. 625

2. 50

3. 25

4. 676

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Be ready for such questions in your exams!

Q:10 What is the remainder when a number $N = 1234567891011...99$ is divided by 16?

1. 7

2. 1

3. 13

4. 9

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was an easy one. Did you guess them all correctly?

Answer Key

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Let's check out your score in this test.

1. (1)	2. (2)	3. (2)	4. (3)	5. (3)
6. (3)	7. (4)	8. (4)	9. (4)	10. (4)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

Answers and Solutions

Q:1 The correct answer is **Option 1** i.e. **3**.

Calculations:

Prime numbers are 2, 3, 5...

According to the question;

$$\Rightarrow (27 \times 2) = 54$$

Where 54 is not a perfect square

$$\Rightarrow (27 \times 3) = 81$$

81 is a perfect square of 9

Hence, the required number is 9

So, the smallest prime number will be 3

Q:2 The correct answer is **Option 2** i.e. **980**.

$$2^8 \times 3^6 \times 5^4 \times 10^5$$

$$\Rightarrow 2^8 \times 3^6 \times 5^4 \times 5^5 \times 2^5$$

$$\Rightarrow 2^{13} \times 3^6 \times 5^9$$

$$\Rightarrow (13 + 1) (6 + 1) (9 + 1)$$

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$$\Rightarrow 14 \times 7 \times 10 = 980$$

Q:3 The correct answer is **Option 2** i.e. **108**.

The product of two numbers = LCM \times HCF

Given, The product of two numbers is 8748

Let the HCF of the two numbers be x then, the LCM will be $12x$

Using formula,

$$\Rightarrow 8748 = (x \times 12x)$$

$$\Rightarrow 12x^2 = 8748$$

$$\Rightarrow x^2 = 729$$

$$\Rightarrow x = 27$$

So, their HCF = 27

So, 4 times of HCF = $(4 \times 27) = 108$

Q:4 The correct answer is **Option 3** i.e. **9**.

Divisibility rule for 3: The sum of digits of the number should be a multiple of 3.

Sum of digits of $270375x6 = 2 + 7 + 0 + 3 + 7 + 5 + x + 6 = 30 + x$

Now for the above number to be divisible by 3, x could be = 0, 3, 6, 9

The maximum value is asked, $x = 9$

Q:5 The correct answer is **Option 3** i.e. **3**.

2020^{2020} unit place will be 0

For any number ending with 9

N^{even} ends with 1 and N^{odd} ends in 9

2019^{2019} ends in 9

For any number ending with 8

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N^{4n} ends in 6, N^{4n+1} ends in 8, N^{4n+2} ends in 4, and N^{4n+3} ends in 2

$$\Rightarrow 2018 = 4 \times 504 + 2$$

$$\therefore 2018^{2018} \text{ ends in } 4$$

$$2018^{2018} + 2019^{2019} + 2020^{2020} \text{ ends } 4 + 9 + 0 = 13$$

It ends with 3

Q:6 The correct answer is **Option 3** i.e. **1**.

$$\Rightarrow 3^{1272}/26$$

$$\Rightarrow (3^3)^{424}/26$$

$$\Rightarrow 27^{424}/26$$

$$\Rightarrow 1^{424} = 1$$

Hence, the remainder will be 1

Q:7 The correct answer is **Option 4** i.e. **101**.

For finding the minimum number when divided by 12, 16, 32 leaves a remainder of 5 we need to find L.C.M of (12, 16, and 32)

$$\Rightarrow \text{L.C.M}(12, 16, 32) = 96$$

$$\text{Minimum number} = (96 + 5) = 101$$

Q:8 The correct answer is **Option 4** i.e. **49937206**.

Divisibility rule for 11: Even place digits and odd place digits do separate and add after that subtract the results that should be 11 or a multiple of 11

$$\text{(i) } 2881605 = (2 + 8 + 6 + 5) - (8 + 1 + 0) = (21 - 9) = 12 \text{ (Not multiple of 11)}$$

$$\text{(ii) } 38111071 = (3 + 1 + 1 + 7) - (8 + 1 + 0 + 1) = (12 - 10) = 2 \text{ (Not multiple of 11)}$$

$$\text{(iii) } 138455 = (1 + 8 + 5) - (3 + 4 + 5) = (14 - 12) = 2 \text{ (Not multiple of 11)}$$

$$\text{(iv) } 49937206 = (4 + 9 + 7 + 0) - (9 + 3 + 2 + 6) = (20 - 20) = 0 \text{ (Multiple of 11)}$$



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Hence, 49937206 is completely divisible by 11

Q:9 The correct answer is **Option 4** i.e. **676**.

If $N = x^a \times y^b \times z^c$ where x , y , and z are prime factors then, the number of factors is $(a + 1)(b + 1)(c + 1)$

First, find the prime factors of 21

$$\Rightarrow 21^{25} = (3^{25} \times 7^{25})$$

So, the number of prime factors is $(26 \times 26) = 676$

Q:10 The correct answer is **Option 4** i.e. **9**.

Divisibility rule of 16 : The last 4 digits of the number should be divisible by 16

The last 4 digits of the number N will be 9899

$$\Rightarrow 9899/16 = (9888 + 9)/16$$

$$\Rightarrow \text{Remainder} = 9$$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Number System.