

## CHAPTER -1

1. A rational number between  $\frac{3}{5}$  and  $\frac{4}{5}$  is:  
(a)  $\frac{7}{5}$     (b)  $\frac{7}{10}$     (c)  $\frac{3}{10}$     (d)  $\frac{4}{10}$
  
2. A rational number between  $\frac{1}{2}$  and  $\frac{3}{4}$  is:  
(a)  $\frac{2}{5}$     (b)  $\frac{5}{8}$     (c)  $\frac{4}{3}$     (d)  $\frac{1}{4}$
  
3. Which one of the following is not a rational number:  
(a)  $\sqrt{2}$     (b) 0    (c)  $\sqrt{4}$     (d)  $\sqrt{-16}$
  
4. Which one of the following is an irrational number:  
(a)  $\sqrt{4}$     (b)  $3\sqrt{8}$     (c)  $\sqrt{100}$     (d)  $-\sqrt{0.64}$
  
5.  $3\frac{3}{8}$  in decimal form is:  
(a) 3.35    (b) 3.375    (c) 33.75    (d) 337.5
  
6.  $\frac{5}{6}$  in the decimal form is:  
(a)  $0.8\bar{3}$     (b)  $0.83\bar{3}$     (c)  $0.6\bar{3}$     (d)  $0.63\bar{3}$
  
7. Decimal representation of rational number  $\frac{8}{27}$  is:  
(a)  $0.29\bar{6}$     (b)  $0.29\bar{6}$     (c)  $0.29\bar{6}$     (d) 0.296
  
8.  $0.6666\dots$  in  $\frac{P}{q}$  form is:  
(a)  $\frac{6}{99}$     (b)  $\frac{2}{3}$     (c)  $\frac{3}{5}$     (d)  $\frac{1}{66}$
  
9. The value of  $(\sqrt{5} + \sqrt{2})(\sqrt{5} - \sqrt{2})$  is:  
(a) 10    (b) 7    (c) 3    (d)  $\sqrt{3}$
  
10.  $0.\bar{36}$  in  $\frac{P}{q}$  form is:  
(a)  $\frac{6}{99}$     (b)  $\frac{2}{3}$     (c)  $\frac{3}{5}$     (d) none of these

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- $\sqrt{5} - 3 - 2$  is  
(a) a rational number (b) a natural number (c) equal to zero (d) an irrational number
- Let  $x = \frac{7}{20 \times 25}$  be a rational number. Then x has decimal expansion, which terminates:  
(a) after four places of decimal (b) after three places of decimal  
(c) after two places of decimal (d) after five places of decimal
- The decimal expansion of  $\frac{63}{72 \times 175}$  is  
(a) terminating (b) non-terminating  
(c) non termination and repeating (d) an irrational number
- If HCF and LCM of two numbers are 4 and 9696, then the product of the two numbers is:  
(a) 9696 (b) 24242 (c) 38784 (d) 4848
- $(2 + \sqrt{3} + \sqrt{5})$  is :  
(a) a rational number (b) a natural number (c) a integer number (d) an irrational number
- If  $\left(\frac{9}{7}\right)^3 \times \left(\frac{49}{81}\right)^{2x-6} = \left(\frac{7}{9}\right)^9$ , the value of x is:  
(a) 12 (b) 9 (c) 8 (d) 6
- The number .211 2111 21111..... is a  
(a) terminating decimal (b) non-terminating decimal  
(c) non termination and non-repeating decimal (d) none of these
- If  $(m)^n = 32$  where m and n are positive integers, then the value of  $(n)^{mn}$  is:  
(a) 32 (b) 25 (c)  $5^{10}$  (d)  $5^{25}$
- The number  $0.\overline{57}$  in the  $\frac{p}{q}$  form  $q \neq 0$  is  
(a)  $\frac{19}{35}$  (b)  $\frac{57}{99}$  (c)  $\frac{57}{95}$  (d)  $\frac{19}{30}$
- The number  $0.\overline{57}$  in the  $\frac{p}{q}$  form  $q \neq 0$  is  
(a)  $\frac{26}{45}$  (b)  $\frac{13}{27}$  (c)  $\frac{57}{99}$  (d)  $\frac{13}{29}$
- Any one of the numbers a, a + 2 and a + 4 is a multiple of:  
(a) 2 (b) 3 (c) 5 (d) 7
- If p is a prime number and p divides  $k^2$ , then p divides:  
(a)  $2k^2$  (b) k (c) 3k (d) none of these

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- $\pi$  is  
(a) a natural number (b) not a real number  
(c) a rational number (d) an irrational number
- The decimal expansion of  $\pi$   
(a) is terminating (b) is non terminating and recurring  
(c) is non terminating and non recurring (d) does not exist.
- Which of the following is not a rational number?  
(a)  $\sqrt{6}$  (b)  $\sqrt{9}$  (c)  $\sqrt{25}$  (d)  $\sqrt{36}$
- Which of the following is a rational number?  
(a)  $\sqrt{36}$  (b)  $\sqrt{12}$  (c)  $\sqrt{14}$  (d)  $\sqrt{21}$
- If a and b are positive integers, then  $\text{HCF}(a, b) \times \text{LCM}(a, b) =$   
(a)  $a \times b$  (b)  $a + b$  (c)  $a - b$  (d)  $a/b$
- If the HCF of two numbers is 1, then the two numbers are called  
(a) composite (b) relatively prime or co-prime  
(c) perfect (d) irrational numbers
- The decimal expansion of  $\frac{93}{1500}$  will be  
(a) terminating (b) non-terminating (c) non-terminating repeating  
(d) non-terminating non-repeating.
- $\sqrt{3}$  is  
(a) a natural number (b) not a real number  
(c) a rational number (d) an irrational number
- The HCF of 52 and 130 is  
(a) 52 (b) 130 (c) 26 (d) 13
- For some integer q, every odd integer is of the form  
(a) q (b)  $q + 1$  (c)  $2q$  (d) none of these
- For some integer q, every even integer is of the form  
(a) q (b)  $q + 1$  (c)  $2q$  (d) none of these
- Euclid's division lemma state that for any positive integers a and b, there exist unique integers q and r such that  $a = bq + r$  where r must satisfy  
(a)  $1 < r < b$  (b)  $0 < r \leq b$  (c)  $0 \leq r < b$  (d)  $0 < r < b$

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1. A ..... is a proven statement used for proving another statement.  
(a) axiom      (b) theorem      (c) lemma      (d) algorithm
2. The product of non-zero rational and an irrational number is  
(a) always rational      (b) always irrational      (c) rational or irrational      (d) one
3. The HCF of smallest composite number and the smallest prime number is  
(a) 0      (b) 1      (c) 2      (d) 3
4. Given that  $HCF(1152, 1664) = 128$  the  $LCM(1152, 1664)$  is  
(a) 14976      (b) 1664      (c) 1152      (d) none of these
5. The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, then the other number is  
(a) 23      (b) 207      (c) 1449      (d) none of these
6. Which one of the following rational number is a non-terminating decimal expansion:  
(a)  $\frac{33}{50}$       (b)  $\frac{66}{180}$       (c)  $\frac{6}{15}$       (d)  $\frac{41}{1000}$
7. A number when divided by 61 gives 27 quotient and 32 as remainder is  
(a) 1679      (b) 1664      (c) 1449      (d) none of these
8. The product of L.C.M and H.C.F. of two numbers is equal to  
(a) Sum of numbers      (b) Difference of numbers  
(c) Product of numbers      (d) Quotients of numbers
9. L.C.M. of two co-prime numbers is always  
(a) product of numbers      (b) sum of numbers  
(c) difference of numbers      (d) none
10. What is the H.C.F. of two consecutive even numbers  
(a) 1      (b) 2      (c) 4      (d) 8
11. What is the H.C.F. of two consecutive odd numbers  
(a) 1      (b) 2      (c) 4      (d) 8
12. The missing number in the following factor tree is  
(a) 2      (b) 6      (c) 3      (d) 9

