

Q1-

Which of the following numbers has terminating decimal expansion ?

- (A) $\frac{37}{45}$ (B) $\frac{21}{2^3 5^6}$ (C) $\frac{17}{49}$ (D) $\frac{89}{2^2 3^2}$

Q2--

The [HCF \times LCM] for the numbers 50 and 20 is

- (A) 10 (B) 100 (C) 1000 (D) 50

Q3--

Which of the following numbers has terminating decimal expansion ?

- (A) $\frac{37}{45}$ (B) $\frac{21}{2^3 5^6}$ (C) $\frac{17}{49}$ (D) $\frac{89}{2^2 3^2}$

Q4--

Euclid's division lemma states that for two 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) $0 < r < b$

Q5--

The decimal expansion of the rational number $\frac{31}{2^2 \cdot 5}$ will terminate after :

- (A) one decimal place (B) two decimal places
(C) three decimal places (D) more than 3 decimal places

Q6--

Given that $\text{HCF}(2520, 6600) = 40$, $\text{LCM}(2520, 6600) = 252 \times k$, then the value of k is :

- (A) 1650 (B) 1600 (C) 165 (D) 1625

Q7--

If p, q are two co-prime numbers. HCF (p, q) is :

- (A) p (B) q (C) pq (D) 1

Q8--

The decimal expansion of the rational number $\frac{23}{2^2 \cdot 5}$ will terminate after.

- (A) one decimal place (B) two decimal places
(C) three decimal places (D) more than three decimal places

Q9--

$n^2 - 1$ is divisible by 8, if n is

- (A) an integer (B) a natural number
(C) an odd integer (D) an even integer

Q10--

If p, q are two prime numbers, then LCM(p, q) is :

- (A) 1 (B) P (C) q (D) pq

Q11-

If $d = \text{HCF}(48, 72)$, the value of d is :

- (A) 24 (B) 48 (C) 12 (D) 72

Q12--

The decimal expansion of the rational number $\frac{11}{2^3 \cdot 5^2}$ will terminate after :

- (A) one decimal place (B) two decimal places
(C) three decimal place (D) more than 3 decimal places

Q13--

If the HCF of 65 and 117 is expressible in the form $65m - 117$, then the value of m is :

- (A) 4 (B) 2 (C) 3 (D) 1

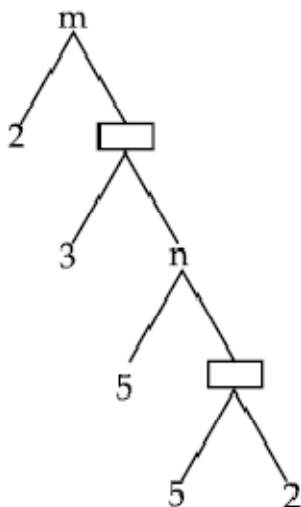
Q14--

If $d = \text{LCM}(36, 198)$, then the value of d is :

- (A) 396 (B) 198 (C) 36 (D) 1

Q15-

In the adjoining factor tree, find the numbers m , n :



- A) 2,6 B) 300, 150 C) 10, 50 D) 25, 6

Q16--

Which of the following is a non-terminating repeating decimal ?

- (A) $\frac{35}{14}$ (B) $\frac{14}{35}$ (C) $\frac{1}{7}$ (D) $\frac{7}{8}$

Q17--

If $x = 2^3 \times 3 \times 5^2$, $y = 2^2 \times 3^3$, then HCF (x , y) is :

- (A) 12 (B) 108 (C) 6 (D) 36

Q18--

Given that $\text{HCF}(253, 440) = 11$ and $\text{LCM}(253, 440) = 253 \times R$. The value of R is :

- (a) 400 (b) 40
(c) 440 (d) 253

Q19--

The rational number of decimal number $0.\bar{6}$ is :

- (a) $\frac{33}{50}$ (b) $\frac{2}{3}$ (c) $\frac{111}{167}$ (d) $\frac{1}{3}$

Q20--

If two positive integers a and b are written as $a = x^2 y^2$ and $b = xy^2$; x, y are prime numbers then HCF (a, b) is :

- (a) xy (b) xy^2 (c) x^2y^3 (d) x^2y^2

Q21--

Given that $\text{HCF}(26, 91) = 13$, then LCM of $(26, 91)$ is :

- (A) 2366 (B) 182 (C) 91 (D) 364

Q22--

$(2 + \sqrt{5})(2 + \sqrt{5})$ expression is :

- (A) A rational number (B) A whole number
(C) An irrational number (D) A natural number

Q23--

If the HCF of 85 and 153 is expressible in the form $85n - 153$, then value of n is :

- (A) 3 (B) 2 (C) 4 (D) 1

Q24--

$(\sqrt{2} - \sqrt{3})(\sqrt{3} + \sqrt{2})$ is

- (A) A rational number (B) A whole number
(C) An irrational number (D) A natural number

Q25--

A rational number can be expressed as a terminating decimal if the denominator has factors

- (A) 2, 3 or 5 (B) 2 or 3 (C) 3 or 5 (D) 2 or 5

Q26--

The decimal expansion of $\frac{33}{2^2 \times 5}$ will terminate after :

- (A) One decimal place (B) Two decimal places
(C) Three decimal places (D) More than three decimal places

Q27--

Which is not an Irrational number ?

- (A) $5 - \sqrt{3}$ (B) $\sqrt{2} + \sqrt{5}$ (C) $4 + \sqrt{2}$ (D) $6 + \sqrt{9}$

Q28--

Which is not irrational number ?

- (A) $\sqrt{5} - \sqrt{3}$ (B) $6 + \sqrt{9}$ (C) $\sqrt{3} - 1$ (D) $2\sqrt{3} - 3$

Q29--

How many prime factors are there in prime factorization of 5005.

- (A) 2 (B) 4 (C) 6 (D) 7

Q30--

 $119^2 - 111^2$ is :

- (A) Prime number (B) Composite number
(C) An odd prime number (D) An odd composite number

Q31--

If least prime factor of a is 3 and least prime factor of b is 7, the least prime factor of (a + b) is :

- (A) 2 (B) 3 (C) 5 (D) 11

Q32--

If a, b are coprime, then a^2, b^2 are :

- (A) Coprime (B) Not coprime
(C) Odd numbers (D) Even numbers

Q33--

The product of the HCF and LCM of the smallest prime number and the smallest composite number is :

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

Q34--

If n is any natural number, then which of the following expressions ends with 0 :

- (A) $(3 \times 2)^n$ (B) $(4 \times 3)^n$ (C) $(2 \times 5)^n$ (D) $(6 \times 2)^n$

Q35--

The decimal expansion of the rational number $\frac{43}{2^4 \times 5^3}$ will terminate after :

- (A) 3 places (B) 4 places (C) 5 places (D) 1 place

Q36--

Euclid's division lemma states that if a and b are any two +ve integers, then there exists unique integers q and r such that

- (A) $a = bq + r, 0 < r < b$ (B) $a = bq + r, 0 \leq r \leq b$
(C) $a = bq + r, 0 \leq r < b$ (D) $a = bq + r, 0 < b < r$

Q37--

Which of the following is not an irrational number ?

- (A) $5 - \sqrt{3}$ (B) $\sqrt{5} + \sqrt{3}$ (C) $4 + \sqrt{2}$ (D) $5 + \sqrt{9}$

Q38--

Which of the following is rational ?

- (A) $\sqrt{6} + \sqrt{9}$ (B) $\sqrt{2} + \sqrt{4}$ (C) $\sqrt{4} + \sqrt{9}$ (D) $\sqrt{3} + \sqrt{5}$

Q39--

Euclid's division lemma states that if a and b are two positive integers, then there exist unique integers q and r such that :

- (A) $a = bq + r, 0 < r < b$ (B) $a = bq + r, 0 \leq r \leq b$
(C) $a = bq + r, 0 \leq r < b$ (D) $a = bq + r, 0 \leq b < r$

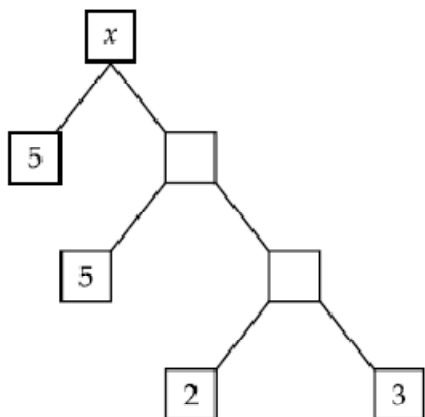
Q40--

Which of the following rational numbers have a terminating decimal expansion ?

- (A) $\frac{125}{441}$ (B) $\frac{77}{210}$
(C) $\frac{15}{1600}$ (D) $\frac{129}{2^2 \times 5^2 \times 7^2}$

Q41--

The value of x in the factor tree is :



- (A) 30 (B) 150 (C) 100 (D) 50

Q42--

Which of the following rational numbers have non terminating and repeating decimal expansion ?

- (A) $\frac{15}{1600}$ (B) $\frac{17}{6}$ (C) $\frac{23}{8}$ (D) $\frac{35}{50}$

Q43--

According to Euclid's division algorithms HCF of any two positive integers a and b with $a > b$ is obtained by applying Euclid's division lemma to a and b to find q and r such that $a = bq + r$ where r must satisfy.

- (A) $1 < r < b$ (B) $0 < r < b$ (C) $0 \leq r < b$ (D) $0 < r \leq b$

Q44--

The decimal expansion of $\frac{141}{120}$ will terminate after how many places of decimals ?

- (A) 1 (B) 2 (C) 3 (D) will not terminate

Q45--

The decimal expansion of $\frac{131}{120}$ will terminate after how many places of decimal ?

- (A) 1 (B) 2 (C) 3 (D) will not terminate

Q46--

According to Euclid's division algorithm using Euclid's division lemma for any two positive integers a and b with $a > b$ enables us to find :

- (A) HCF (B) LCM
(C) Decimal expansion (D) Probability

Q47--

The decimal expansion of $\frac{6}{1250}$ will terminate after how many places of decimal ?

- (A) 1 (B) 2 (C) 3 (D) 4

Q48--

The decimal expansion of $\frac{7}{125}$ will terminate after how many places of decimal

- (A) 1 (B) 2 (C) 3 (D) 4

Q49--

For some integer m , every even integer is of the form

- (A) m (B) $m + 1$
(C) $2m$ (D) $2m + 1$

Q50--

For some integer q , every odd integer is of the form

- (A) q (B) $q + 1$
(C) $2q$ (D) $2q + 1$

Q51--

The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is

- (A) 13 (B) 65
(C) 875 (D) 1750

Q52--

If two positive integers a and b are written as

$a = x^3y^2$ and $b = xy^3$; x, y are prime numbers, then HCF (a, b) is

- (A) xy (B) xy^2 (C) x^3y^3 (D) x^2y^2

Q53—

If two positive integers p and q can be expressed as

$p = ab^2$ and $q = a^3b$, a, b being prime numbers, then LCM (p, q) is

- (A) ab (B) a^2b^2 (C) a^3b^2 (D) a^3b^3

Q54—

The product of a non-zero rational and an irrational number is

- (A) always irrational (B) always rational
(C) rational or irrational (D) one

Q55—


The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is

- (A) 10 (B) 100 (C) 504 (D) 2520

Q56—

The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after:

- (A) one decimal place (B) two decimal places
(C) three decimal places (D) four decimal places

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