10th Chapter Number System CBSE Test Paper – 05

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 × 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 $\frac{31}{2^2.5}$ will terminate after :

(A) one decimal place (B) two decimal places

(C) three decimal places (D) more than 3 decimal places

Q6--

Given that HCF (2520, 6600) = 40, 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 $\frac{23}{2^2 5}$ 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 = HCF(48, 72), the value of d is :

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

Q12--

The decimal expansion of the rational number $\frac{11}{2^3 5^2}$ 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 65 m − 117, then the value of m is :

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

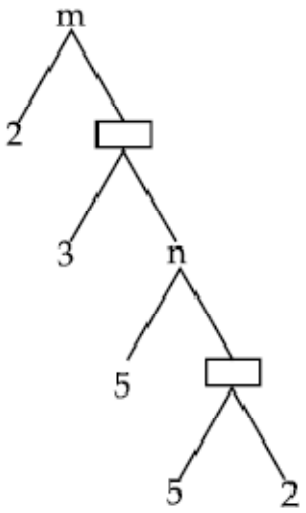
Q14--

If d = LCM(36, 198), then the value of d is :

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

15-

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



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

16--

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

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

17--

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

18--

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

(a) 400 (b) 40

(c) 440 (d) 253

19--

The rational number of decimal number $0.\overline{6}$ 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 $a = x^2y^2$ 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 HCF (26, 91) = 13, then LCM of (26, 91) is :

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

Q22--

$\left(2+\sqrt{5}\right)\left(2+\sqrt{5}\right)$ 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--

$\left(\sqrt{2}-\sqrt{3}\right)\left(\sqrt{3}+\sqrt{2}\right)$ 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) $(3\times2)^n$ (B) $(4\times3)^n$ (C) $(2\times5)^n$ (D) $(6\times2)^n$

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--

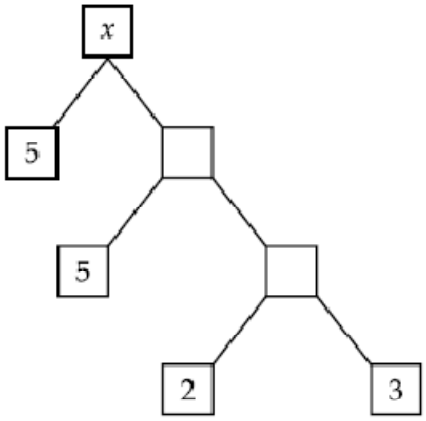
Which of the following rational numbers have a terminating decimal expansion ?

(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) $0 \le r < b$ (D) $0 < r \le b$

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) $2q + 1$