(PULKIT JAWAL)

Q1. A rational number between $\frac{-3}{5}$ and $\frac{4}{5}$: is (a) $\frac{-7}{10}$ (b) $\frac{7}{5}$ (c) $\frac{7}{10}$ (d) None

Q2. Which one is not a Rational Number.: (a) 0 (b) $\sqrt{289}$ (c) $\sqrt{-16}$ (d) $\sqrt{8}$

Q3. Which one is an irrational number :- (a) $\sqrt{1000}$ (b) $-\sqrt{0.04}$ (c) $\sqrt{16}$ (d) None

Q4. Which type of no. Is this $(\sqrt{5}+\sqrt{2})(\sqrt{5}-\sqrt{2})$:- (a) Irrational number.
(b) Rational number (c) Even number (d) odd number (e) Both (b) & (d)

Q5. A rational number $\frac{70}{25 \times 20}$ will terminates :— (a) After 3 places of decimal
(b) After 4 places of decimal (c) After 6 places of decimal (d) None of these

Q6. If $\left(\frac{9}{7}\right)^3 \times \left(\frac{49}{81}\right)^{2x-6} = \left(\frac{7}{9}\right)^9$ then value of $x = ??$ (a) 12 (b) 9 (c) 8 (d) 6

Q7. The number $79.611\ 6111\ 61111.....$ is a ⟶ (a) Repeating in nature
(b) Non-repeating (c) Terminating (d) Non-terminating and non-repeating.

Q8. If $(x)^p = 16$ then value of $(P)^{xp} = ??$ (a) 4^2 (b) 4^8 (c) 4^4 (d) 4

Q9. If q is a prime number and q divides k^2 then q divides:—
(a) 3k (b) $5k^2$ (c) k (d) None

Q10. The decimal expansion of π is :- (a) Is terminating (b) does not exist
(c) Non terminating and recurring (d) Non terminating and Non recurring.

Q11. If m and n are positive integers such that Hcf $(m,n) \times$ Lcm $(m,n) =$
(a) $(m+n)$ (b) (m^n) (c) (n^m) (d) $(m \times n)$ (e) m/n

Q12. The decimal expansion of $\frac{93}{1500}$ will be (a) Terminating in nature
(b) Non-terminating (c) Repeating (d) Non terminating-Non repeating.

Q13. Which condition is correct for Euclid's division lemma. $(a = bq + r)$
where a & b are positive integers.
(a) $1 < r < b$ (b) $0 \leq r < b$ (e) $0 \leq r \leq b$ (d) None

Q14. Which one of the following rational number is a Non-terminating decimal.
expansion:- (a) $\frac{33}{50}$ (b) $\frac{41}{100000}$ (c) $\frac{6}{15}$ (d) $\frac{66}{180}$

Q15 The HCF of two coprime numbers. Is always = (a) 2 (b) 1 (c) -1 (d) 3

Q16. The HCF of smallest Composite number and smallest prime number is
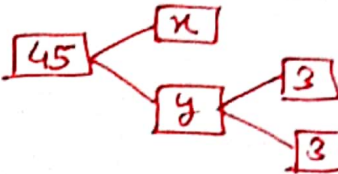(a) 4   (b) 1   (c) 2   (d) 0

Q17. The LCM of 2 Coprime number is always (a) Sum of the numbers.
(b) Difference of the numbers. (c) Product of the numbers. (d) None

Q18. The HCF of 2 Consecutive even numbers. is (a) 1 (b) 4 (c) 2 (d) None

Q19. The HCF of 2 Consecutive odd numbers is (a) 4 (b) 2 (c) 1 (d) 0

Q20 Find the missing no. in a factor tree :-
(a) x=9, y=5   (c) x=5, y=5
(b) x=1, y=45   (d) x=5, y=9

Q21. If HCF of 65 and 117 is expressible in the form of $(26x - 117)$ then $x = ?$
(a) 220   (b) 221   (c) 117   (d) 5   (e) None of these

Q22 The largest number which divides. 70 & 125, leaving the remainder
5 & 8. is → (a) 1750 (b) 65 (c) 13 (d) 26

Q23. If $a = m^3 n^2$ & $b = mn^3$ where m, n are prime. then ratio of LCM to HCF is
(a) $m^2 n : 1$ (b) $1 : m^2 n$ (c) $mn : 1$ (d) $1 : mn^2$ (e) None

Q24. The product of any rational no. (non-zero) and an irrational no. is
(a) Always Rational (b) Irrational (c) Rational or Irrational (d) None

Q25 The decimal expansion of $\dfrac{33}{2^2 \cdot 5}$ will terminate after how many places of
decimal (a) One (b) Two (c) Three (d) four (e) Non-terminating

Q26. A rational no. 327.7081 is expressed in then form of P/q. Then denomin-
-ator $(q = 2^m \times 5^n)$. Then values of m and n are
(a) m=4, n=3 (b) m=4, n=4 (c) m=3, n=4 (d) m=0, n=4.

Q27. If n is a rational no., then $\left(5^{2n} - 2^{2n}\right)$ is divisible by
(a) 3   (b) 7   (c) Both 3 & 7   (d) None

Q28 find the HCF of 693, 441 and 567. (a) 63 (b) 36 (c) 7 (d) 49

Q29. On a morning walk, three person step off together and their steps
measure 40cm, 42cm & 45cm. What is the minimum distance each
should walk so that each can cover the same distance in complete steps.
(a) 2525 cm   (b) 2528cm (c) 2500 cm (d) 2520cm.

(PULKIT JAWNL)

Q30. The HCF & LCM of 2 numbers is 33 and 264. When the first no. is completely divided by 2 then the quotient is 33. Then other no. is ___
(a) 66 (b) 130 (c) 132 (d) 196.

Q31. The decimal expansion of no. $\dfrac{441}{2^2 \times 5^8 \times 7}$ has. (a) Terminating decimal.
(b) Non-terminating (c) Non-recurring (d) Non-terminating & non-recurring.

Q32. $\left(\pi - \dfrac{22}{7}\right)$ is a (a) Rational no. (b) Irrational no. (c) Prime no. (d) None

Q33. If $A = 2n+13$, $B = n+7$ where n is the natural number. then HCF of A & B is ___ (a) 2 (b) 1 (c) Can't determine.

Q34. The largest number which exactly divides 70, 80, 100, 200. is
(a) 15 (b) 5 (c) Can't determine. (d) None of these.

Q35. LCM of p & q where $p = (m^2-4)$ & $q = (m^4-16)$ is
(a) $(m^2-4)(m^2+2)$ (b) $(m^2-4)(m^2+4)$ (c) $(m+2)(m-2)$ (d) $(m^2+2)(m^2-2)$

Q36. For positive integers a & 6, there exist unique integers q & r such that $a = 6q+r$ where r must satisfy the condition.
(a) $0 \le r \le 6$ (b) $6 \le r < 0$ (c) $0 < r < 1$ (d) $0 \le r < 6$

Q37. Using Euclids division lemma; $a = 98$, $b = 38$, $(a = bq+r)$. Steps are :-
(1) $98 = 38 \times 2 + x$
(2) $38 = 22 \times 1 + 16$
(3) $y = 16 \times 1 + 6$
(4) ... and so on   what no. should come in place of x & y.
(a) $x = 22, y = 23$ (b) $x = 38, y = 16$ (c) $x = y = 22$ (d) $x = 6, y = 4$

Q38. If HCF$(a,b) = 9$ and LCM$(a,b) = 459$. If $a = 27$ then $b = ??$
(a) 135 (b) 531 (c) 152 (d) 153.

Q39. The formula for Euclids division algorithm is. (where a & b are the integers)
(a) $b = aq+r$ (c) $r = bq+a$
(b) $a = rq+b$. (d) None of these

Q40. The LCM of 2.5, 0.5 and 0.175 is
(a) 25 (b) 175 (c) 1.75 (d) 17.5 (e) Can't determine.

Q41. Which of the following is not an irrational number :-
(a) $(2+\sqrt{3})$ (b) $\dfrac{3\sqrt{7}}{3}$ (c) $(5-\sqrt{3})^2$ (d) $(\sqrt{2}-\sqrt{3})(\sqrt{2}+\sqrt{3})$

Q42. A number 2940 can be expressed as product of primes as.
(a) $2^2 \times 3 \times 5^2 \times 7^2$ (b) $2^2 \times 3^2 \times 5^2 \times 7$ (c) $2^2 \times 3 \times 5 \times 7$ (d) None

Q43. (m^2-1) is divisible by 8, if $m = ??$ (a) an even integer
(b) an odd integer   (c) Can't determine   (d) Both (a) and (b)

Q44. The Lcm of 2 number is 256. Which one of the following is their HCF?
(a) 15   (b) 100   (c) 20   (d) 16   (e) Can't determine.

Q45. If $x = 2^3 \times 3^4 \times 5^4 \times 7$, then no. of Consecutive zeros. in 'x' is
(a) 4   (b) 2   (c) 1   (d) 3   (e) None of these

Q46. How many even prime number is present between 1 to 1000.
(a) five   (b) six   (c) One   (d) Can't say.

Q47. A number $\left(6 + \sqrt{3} + \sqrt{2} + \sqrt{5}\right)$ is a $\longrightarrow$ (a) Rational number
(b) Irrational number   (c) Even number   (d) Prime number

Q48. Which of the following statement is Incorrect:-
(a) 2 is the only number which is an even prime.
(b) Sum of the rational & Irrational number is always irrational.
(c) $(7 \times 11 \times 13 + 6)$ is a Composite number.
(d) HCF of 13 and 196 is 1.
(e) All of the above statements are Correct.

Q49. If $x^n = (a \times 5)^n$ for x^n to end with the digit zero, then 'a' must
be equals to $\rightarrow$ (a) Any natural number (b) Any even number
(c) Any odd number (d) None of these

Q50. The decimal expansion of $\dfrac{63}{72 \times 175}$ is:-   (a) Terminating
(b) Non-terminating   (c) Non-recurring   (d) None of these

Q51. If m and n are 2 odd prime numbers. such that $m > n$ then
$(m^2 - n^2) = ??$
(a) An odd number   (b) An even number   (c) A prime no.   (d) None

Q52. An irrational no. between 2 & 3 is ___
(a) 2.5555..... (b) 2.536   (c) 2.1010152   (d) 2.1335556666.....

Q52 What do you mean by a Irrational number? (Choose the best option)

(a) Terminating decimal expansion.   (c) Non-repeating in nature

(b) Non terminating decimal expansion (d) Repeating in nature

(e) ~~Both (a) & And (b)(c) / c(a)~~ Both (c) & (b)

Q54 $5.\overline{76}$ is a →   (a) An integer (b) Irrational no. (c) Rational no.

Q55. Which of the following number is irrational number.

(a) $\sqrt{100}$ (b) 3.14   (c) $3.\overline{14}$ (d) 5.6116111611111... (e) 5.66666....

Q56. The exponent of 2 in prime factorisation of 156 is

(a) 1   (b) 2   (c) 3   (d) 4   (e) None of these

Q57 The Hcf of P, q, r where p = $2^3 \times 3^2 \times 5$, q = $2^2 \times 3^3 \times 5^2$ and r = $2^4 \times 3 \times 5^3 \times 7$

(a) 30   (b) 420   (c) 240   (d) None of these

Q58. If p = $2^3 \times 3$, q = $2 \times 3 \times 5$, r = $3^n \times 5$ & Lcm (p,q,r) = $2^3 \times 3^2 \times 5$

the value of n is → (a) 1   (b) 2   (c) 3   (d) 0

Q59 What is the least no. that is divisible by all the natural no's from ~~1 to 100~~ 1 to 10 (both inclusive)

(a) 100   (b) 2520   (c) 2000   (d) 2500.

Q60 If the Lcm & Hcf of 2 rational no's are equals then the number. must be ____

(a) Prime   (b) Coprime   (c) Composite   (d) Equal numbers.

Q61. The smallest number by which $\sqrt{27}$ should be multiplied so as to get a rational number.   (a) $\sqrt{27}$ (b) 3 (c) $\sqrt{3}$ (d) 1

Q62. which of the following have terminate decimal expansion:- (i) $\frac{4}{1000}$ (ii) $\frac{7}{4900}$ (iii) $\frac{3}{27}$ (iv) $\frac{7}{250}$

(a) (i) & (ii)   (c) (i) & (iii)

(b) (i) & (iv)   (d) All them above.

Q63 The ratio of Lcm to Hcf of p and q where p = least Composite no. and q = even prime number.

(a) 1:2   (b) 2:1   (c) 4:3   (d) Can't be determine.

Q64. If sum of 2 numbers is 1215 and their Hcf is 81. Then possible no. of pairs of such ~~two~~ numbers are :- (a) 2 (b) 3 (c) 4 (d) 5

Q65. The Lcm of 2 prime numbers. a and b is 221. (a>b). find the value of $3a-b$. (a) 4 (b) 28 (c) 38 (d) 48

Q66. Prime factor of the denominator of a Rational number with decimal expansion 64.256 is. (a) 3;5 (b) 2,5 (c) 5,7 (d) 1,2

Q67. The smallest number by which $\frac{1}{26}$ must be multiplied so that it's decimal expansion terminates after 2 places of decimal :-

(a) $\frac{26}{100}$ (b) $\frac{26}{10}$ (c) $\frac{100}{26}$ (d) $\frac{100}{13}$ (e) $\frac{1}{26}$

Q68. The H.c.f. of 95 and 152 is (a) 57 (b) 1 (c) 19 (d) None

Q69. Choose the incorrect statement :-
(a) Even numbers can never form a co-prime pair.
(b) Zero is a Rational number.
(c) The Lcm of any 2 prime numbers are ~~of~~ always one.
(d) The Hcf of 2 Consecutive natural numbers are always 1.

Q70. How many prime factors are present in the prime factorisation of 5005.
(a) 1 (b) 2 (c) 3 (d) 4 (e) 5.

Q71. A rational no. can be expressed as a terminating decimal if the denominator has a factors :-
(a) 2 or 5 (b) 3 or 5 (c) 6 or 7 (d) None of these

Q72. which one is not an irrational number :-
(a) $5-\sqrt{3}$ (b) $5+\sqrt{6}$ (c) $5-\sqrt{9}$ (d) $5+6\sqrt{5}$

Q73. In Euclids division lemma correct representation of integers 405 & 25 is
(a) $405 = 25\times16 + 155$ (b) $405 = 25\times16+5$ (c) $450 = 25\times15+30$
(d) $450 = 25\times20-95$

Q74. If Hcf $(16,m)=8$ & Lcm $(16,m)=48$ then find the value of $m=$?
(a) 24 (b) 16 (c) 8 (d) 48

Q75. The difference between the Lcm & Hcf of these no's 5, 15 and 20 is
(a) 65 (b) 55 (c) 60 (d) None of these

(PULKIT JAWAL)

Q76. The HCF of 2 numbers is 18 and their product is 12960. Their LCM will be
(a) 420   (b) 600   (c) 720   (d) None of these

Q77. The least number that is divisible by all the numbers from 10 to 15 (both inclusive) is →
(a) 60060   (b) 60000   (c) 5460   (d) 54600.

Q78. Three bells rings at an interval of 4, 7 & 14 minutes. All 3 bells rang at 8am, when all the three bells will the ring together.
(a) 8am   (b) 8:30am   (c) 8:28am   (d) 8:30am

Q79. Three bells rings once every 12min, 20min. & 36min. If all of them ring together at 6:30am. then at what time will they all ring together for the next time.
(a) 8:30am   (b) 9:00am   (c) 9:30am   (d) 10 am.

Q80. 3 Bells rings once every 10min, 15min & 20min. The three bells ring together at 12pm. At what time will they ring together next.
(a) 12:30pm   (b) 12:45pm   (c) 12:55pm   (d) None of these

Q81. If $x^2 = \dfrac{54}{25}$ then x=?? (a) Rational no. (b) Irrational no. (c) Whole no.

Q82. If $x^2 = \dfrac{289}{256}$ then x=?? (a) Rational no. (b) Irrational no. (c) Whole no.

Q83. The LCM of 2 numbers is 495 and their HCF is 5. If the sum of the numbers is 100 then difference of 2 numbers is ——.
(a) 100   (b) 1000   (c) 10   (d) Can't determine.

Q84. The sum of 2 numbers is 462 and their HCF is 22. then possible no. of pairs are ÷
(a) 5 pairs   (b) 2 pairs   (c) 6 pairs   (d) None of these.

Q85. Three farmers have 490kg, 588kg and 882 kg of wheat. find the maximum capacity of a bag so that the wheat can be packed in exact no. of Bags.
(a) 49 kg   (b) 98 kg   (c) 100kg   (d) 200kg

Q86. A no. which when multiply with $\sqrt{180}$ gives a Rational number.
(a) 5   (b) 6   (c) $\sqrt{5}$ (d) $\sqrt{6}$

Q87. An irrational number between $\sqrt{5}$ and $\sqrt{7}$ is
(a) $\sqrt{35}$ (b) $(35)^{1/4}$ (c) 35   (d) $\dfrac{1}{35}$

(PULKIT JADAU)

Q81. The largest no. which divides 70 & 125 leaving remainder 5 & 8.

(a) 26   (b) 13   (c) 11   (d) 10

Q82. If the HCF of two numbers is 1 then these 2 no's are called.

(a) Composite no.   (b) Relatively prime or coprime   (c) Irrational No.   (d) None

Q90. On simplification (2√45/2√5) $\dfrac{2\sqrt{45} - 3\sqrt{20}}{2\sqrt{5}}$ gives a ___

(a) Irrational number   (b) Composite number   (c) Rational Number   (d) None

Q91. Given x and y are 2 positive integers such that $Lcm(x,y) = 14 \times HCF(x,y)$ and $Lcm(x,y) + HCF(x,y) = 600$. If $x = 280$ then $y = ??$

(a) 40   (b) 80   (c) 160   (d) None of these

Q92. The $HCF(P,q) = ??$ where $p = (x^2 + 6x + 9)(x+3)$ & $q = (x^2 + 2x - 3)(x-1)$

(a) $(x+3)^0$ (b) $(x+3)$ (c) $(x+3)^2$ (d) None of these

Q93. For which value of 'P'; $\left(\dfrac{251}{2^3 \times p^2}\right)$ is a non-terminating recurring decimal.

(a) 3   (b) 7   (c) 15   (d) All of these

Q94. The largest possible positive integer that will divide 398, 436, 542 leaving remainder 7, 11 & 15.

(a) 1   (b) 3   (c) 17   (d) 34   (e) None of these

Q95. If $x = p^2 q^3$ and $y = p^3 q$ then which of the following is true if x and y are positive integers,

(a) HCF/ = $HCF(x,y) = pq^2 \times Lcm(x,y)$ (b) $HCF(x,y) = p^2 q \times Lcm(x,y)$

(c) $Lcm(x,y) = pq^2 \times Hcf(x,y)$ (d) $Lcm(x,y) = p^2 q \times HCF(x,y)$

Q96. For what value of 'n' is $(4)^n$ ends with 0?

(a) n = 10   (b) n = even no.   (c) n = odd no.   (d) No value of n.

Q97. If x is a positive real rational number and 'n' is a positive integer greater than 1, then for what value of 'n', & (x^n) is a rational no.?

(a) n = even integer   (b) n = odd integer   (c) when n = 0   (d) for all (n > 1)

Q98. If n is any odd integer then $(n^2 - 1)$ is divisible by ___

(a) 22   (b) 44   (c) 10   (d) 8

Q99. Three numbers are in ratio of 3:4:5 and their Lcm is 2400. Then their HCF is → (a) 20   (b) 1   (c) 80   (d) 40

Q100) The HCF of 861, 400 is → (a) 19 (b) 1 (c) 38 (d) None.

Q101. The HCF of 2 numbers is 11 and their LCM is 7700. If one of the number is 275 then the other number is →
(a) 279   (b) 283   (c) 308   (d) 318   (e) None of these

Q102 The LCM of 2 numbers is 48. The numbers are in the ratio of 2:3. Then sum of the numbers are :-
(a) 28   (b) 32   (c) 40   (d) 64

Q103. The HCF of $\frac{9}{10}$, $\frac{12}{25}$, $\frac{18}{35}$ is → (a) $\frac{350}{3}$ (b) $\frac{3}{300}$ (c) $\frac{3}{350}$ (d) $\frac{350}{30}$

Q104. The HCF of 2.04, 0.24 & 0.8 is → (a) 0.4 (b) 0.04 (c) 0.004 (d) 4

Q105. The LCM of $\frac{2}{3}$, $\frac{5}{7}$, $\frac{4}{9}$ is → (a) $\frac{3}{10}$ (b) $\frac{10}{3}$ (c) $\frac{3}{20}$ (d) $\frac{20}{3}$

Q106. If sum of 2 numbers is 36 and their HCF is 4. Then possible pairs of such number are (a) 1   (b) 3   (c) 2   (d) 4.

Q107 The product of 2 no. is 2160 and their HCF is 12. No. of such Possible pairs is (a) 1   (b) 2   (c) 3   (d) 4

Q108. The sum of 2 no's is 528 and their HCF is 33. The no. of such pairs are :- (a) 2   (b) 3   (c) 4   (d) 6.

Q109 The HCF of 2 numbers. is 25 and their sum is 750. Which one of the can never be a possible pair of numbers.
(a) (29, 1)   (b) (23, 7)   (c) (10, 20)   (d) (1, 19)   (e) (17, 13)

Q110 Product of 2 numbers. is 1440 and their HCF is 12. The no. of possible pairs of such number are :-
(a) 2   (b) 3   (c) 4   (d) 1

Q111. How many even prime number are present between 1 to 1000.
(a) 1   (b) 2   (c) 3   (d) 4   (e) None of these.

Q112 If a and b are 2 positive integers and they are equal. then their LCM (a,b) & HCF (a,b) is —
(a) LCM(a,b) = HCF(a,b)   (b) LCM(a,b) > HCF(a,b)
(c) LCM(a,b) < HCF(a,b)   (d) Can't determine.

Q113. Which of the following is not a Coprime pair.
(a) (2, 15)   (b) (7, 26)   (c) (13, 114)   (d) (5, 9)

(PULKIT)