KINETICS
We Nurture The Future
IIT-JEE | Medical | Foundations

Number Systems

Question 1.
Which of the following is a rational number?
(a) π
(b) 0
(c) $1+\sqrt{3}$
(d) $2\sqrt{3}$

Answer: (b) 0

Question 2.
Which of the following is the product of $\frac{7}{8}$ and $\frac{-4}{21}$?
(a) $\frac{-1}{6}$
(b) $\frac{1}{12}$
(c) $\frac{-16}{63}$
(d) $\frac{-147}{16}$

Answer: (a) $\frac{-1}{6}$

Question 3.
In between two rational number there is/are:
(a) Exactly one rational number
(b) Infinitely many rational number
(c) Many irrational numbers
(d) Only irrational numbers

Answer: (b) Infinitely many rational number

Question 4.
The product of a rational and an irrational numbers is:
(a) Always an integer

(b) Always a rational number
(c) Always an irrational number
(d) Sometimes rational and sometimes irrational

Answer: (c) Always an irrational number

Question 5.
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) 1
(d) 3

Answer: (b) 2

Question 6.
The HCF and LCM of two numbers are 33 and 264 respectively. When the first number is completely divided by 2 the quotient is 33. The other number is:
(a) 66
(b) 130
(c) 132
(d) 196

Answer: (c) 132

Question 7.
The decimal fraction in which there are finite number of digits in its decimal part is called
(a) terminating decimal fraction
(b) non-terminating decimal fraction
(c) linear fraction
(d) quadratic fraction

Answer: (a) terminating decimal fraction

Question 8.
The product of a rational and an irrational numbers is:
(a) Always an integer
(b) Always a rational number
(c) Always an irrational number
(d) Sometimes rational and sometimes irrational

Answer: (c) Always an irrational number

Question 9.
Can we write 0 in the form of $\frac{p}{q}$?
(a) Yes
(b) No
(c) Cannot be explained
(d) None of the above

Answer: (a) Yes

Question 10.
$3\sqrt{6} + 4\sqrt{6}$ is equal to:
(a) $6\sqrt{6}$
(b) $7\sqrt{6}$
(c) $4\sqrt{12}$
(d) $7\sqrt{12}$

Answer: (b) $7\sqrt{6}$

Question 11.
If $x = 2+\sqrt{3}$, then $x + \frac{1}{x} =$
(a) 5
(b) 4
(c) -4
(d) -5

Answer: (b) 4

Question 12.
The three rational numbers between 3 and 4 are:
(a) $\frac{5}{2}, \frac{6}{2}, \frac{7}{2}$
(b) $\frac{13}{4}, \frac{14}{4}, \frac{15}{4}$
(c) $\frac{12}{7}, \frac{13}{7}, \frac{14}{7}$
(d) $\frac{11}{4}, \frac{12}{4}, \frac{13}{4}$

Answer: (b) $\frac{13}{4}, \frac{14}{4}, \frac{15}{4}$

Question 13.
Decimal representation of a rational number cannot be
(a) terminating
(b) always terminating
(c) always non-terminating
(d) non terminating non repeating

Answer: (d) non terminating non repeating

Question 14.
All the integers are
(a) whole numbers
(b) rational numbers
(c) irrational numbers
(d) natural numbers

Answer: (b) rational numbers

Question 15.
Every real number is
(a) neither rational nor irrational
(b) irrational
(c) rational
(d) either rational or irrational

Answer: (d) either rational or irrational

Question 16.
How many zeros after the decimal point will be there in the decimal form of the number 10-n ?
(a) n
(b) n+1
(c) n-1
(d) $\frac{n}{2}$

Answer: (c) n-1

Question 17.
A forester wants to plant 44 apples tree, 66 banana trees and 110 mango trees in equal rows (in terms of number of trees). Also, he wants to make distinct rows of tree (i.e. only one type of tree in one row). The number of rows (minimum) that required is:

(a) 2
(b) 3
(c) 10
(d) 11

Answer: (c) 10

Question 18.
The rational number between 1 and 2 is
(a) $\frac{3}{2}$
(b) $\frac{7}{2}$
(c) $\frac{5}{2}$
(d) $\frac{1}{2}$

Answer: (a) $\frac{3}{2}$

Question 19.
Which of the following lies between 0 and -1?
(a) 0
(b) -3
(c) $\frac{-2}{3}$
(d) $\frac{4}{3}$

Answer: (c) $\frac{-2}{3}$

Question 20.
Expression of 2.2323… in the form of $\frac{a}{b}$ is _____.
(a) $\frac{221}{99}$
(b) $\frac{75}{31}$
(c) $\frac{7}{99}$
(d) $\frac{223}{99}$

Answer: (a) $\frac{221}{99}$

Question 21.
$\sqrt{6} \times \sqrt{27}$ is equal to:

(a) $9\sqrt{2}$
(b) $3\sqrt{3}$
(c) $2\sqrt{2}$
(d) $9\sqrt{3}$

Answer: (a) $9\sqrt{2}$

Question 22.
In between any two numbers there are:
(a) Only one rational number
(b) Many rational numbers
(c) Infinite rational numbers
(d) No rational number

Answer: (c) Infinite rational numbers

Question 23.
Every rational number is:
(a) Whole number
(b) Natural number
(c) Integer
(d) Real number

Answer: (d) Real number

Question 24.
$(64)^{\frac{-3}{2}}$
(a) $\frac{-1}{512}$
(b) $\frac{1}{512}$
(c) 64
(d) $\frac{1}{64}$

Answer: (a) $\frac{-1}{512}$
