Question:1

Find the value of each of the following:

$i\ 13^2$

$ii\ 7^3$

$iii\ 3^4$

Solution:

We have

$i\ 13^2 = 13 \times 13 = 169$

$ii\ 7^3 = 7 \times 7 \times 7 = 343$

$iii\ 3^4 = 3 \times 3 \times 3 \times 3 = 81$

Question:2

Find the value of each of the following:

$i\ -7^2$

$ii\ -3^4$

$iii\ -5^5$

Solution:

We know that if 'a' is natural number, then

$-a^{\text{even number}}$ = Positive number

$-a^{\text{odd number}}$ = Negative number

We have

$i\ -7^2 = -7 \times -7 = 49$

$ii\ -3^4 = -3 \times -3 \times -3 \times -3 = 81$

$iii\ -5^5 = -5 \times -5 \times -5 \times -5 \times -5 = -3125$

Question:3

Simplify:

$i\ 3 \times 10^2$

$ii\ 2^2 \times 5^3$

$ii\ 3^3 \times 5^2$

Solution:

We have

$i\ 3 \times 10^2 = 3 \times 100 = 300$ [since $10^2 = 10 \times 10 = 100$]

$ii\ 2^2 \times 5^3 = 4 \times 125 = 500$ [since $2^2 = 2 \times 2 = 4$ and $5^3 = 5 \times 5 \times 5 = 125$]

$iii\ 3^3 \times 5^2 = 27 \times 25 = 675$ [since $3^3 = 3 \times 3 \times 3 = 27$ and $5^2 = 5 \times 5 = 25$]

Question:4

Simplify:

$i\ 3^2 \times 10^4$

$ii\ 2^4 \times 3^2$

$ii\ 5^2 \times 3^4$

Solution:

We have

$i\ 3^2 \times 10^4 = 9 \times 10000 = 90000$ [since $3^2 = 3 \times 3 = 9$ and $10^4 = 10 \times 10 \times 10 \times 10 = 10000$]

$ii\ 2^4 \times 3^2 = 16 \times 9 = 144$ [since $2^4 = 2 \times 2 \times 2 \times 2 = 16$ and $3^2 = 3 \times 3 = 9$]

$iii\ 5^2 \times 3^4 = 25 \times 81 = 2025$ [since $5^2 = 5 \times 5 = 25$ and $3^4 = 3 \times 3 \times 3 \times 3 = 81$]

Question:5

Simplify:

$i\ -2 \times -3^3$

$ii\ -3^2 \times -5^3$

$iii\ -2^5 \times -10^2$

Solution:

We know that if 'a' is natural number, then

$-a^{\text{even number}}$ = Positive number

$-a^{\text{odd number}}$ = Negative number

We have

$i\ -2 \times -3^3 = -2-27 = 54$ [since $(-3)^3 = -3 \times -3 \times -3 = -27$]

$ii\ -3^2 \times -5^3 = 9 - 125 = -1125$ [since $(-3)^2 = -3 \times -3 = 9$ and $-5^3 = -5 \times -5 \times -5 = -125$]

$iii\ -2^5 \times -10^2 = -32 \times 100 = -3200$ [since $(-2)^5 = -2 \times -2 \times -2 \times -2 \times -2 = -32$ and $-10^2 = -10 \times -10 = 100$]

Question:6

Simplify:

$i\ \left(\frac{3}{4}\right)^2$

$ii\ \left(\frac{-2}{3}\right)^4$

$iii\ \left(\frac{-4}{5}\right)^5$

Solution:

We have

$i\ \left(\frac{3}{4}\right)^2 = \frac{3}{4} \times \frac{3}{4} = \frac{9}{16}$

$ii\ \left(\frac{-2}{3}\right)^4 = \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} = \frac{16}{81}$

$iii\ \left(\frac{-4}{5}\right)^5 = \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} \times \frac{-4}{5} = \frac{-1024}{3125}$

Question:7

Identify the greater number in each of the following:

$i\ 2^5$ or 5^2

$ii\ 3^4$ or 4^3

$iii\ 3^5$ or 5^3

Solution:

We have

$i\ 2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$ and $5^2 = 5 \times 5 = 25$

Therefore, $32 > 25$.

Thus, $2^5 > 5^2$.

$ii\ 3^4 = 3 \times 3 \times 3 \times 3 = 81$ and $4^3 = 4 \times 4 \times 4 = 64$

Therefore, $81 > 64$.

Thus, $3^4 > 4^3$.

$iii\ 3^5 = 3 \times 3 \times 3 \times 3 \times 3 = 243$ and $5^3 = 5 \times 5 \times 5 = 125$

Therefore, $243 > 125$.

Thus, $3^5 > 5^3$.

Question:8

Express each of the following in exponential form:

$i\ (-5) \times -5 \times -5$

$ii\ \frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7}$

$iii\ \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3}$

Solution:

We have

$i\ -5 \times -5 \times -5 = -5^3$

$ii\ \frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7} \times \frac{-5}{7} = \left(\frac{-5}{7}\right)^4$

$iii\ \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} \times \frac{4}{3} = \left(\frac{4}{3}\right)^5$

Question:9

Express each of the following in exponential form:

$i\ x \times x \times x \times x \times a \times a \times b \times b \times b$

$ii\ (-2) \times -2 \times -2 \times -2 \times a \times a \times a$

$iii\ \left(\frac{-2}{3}\right) \times \left(\frac{-2}{3}\right) \times x \times x \times x$

Solution:

We have

$i\ x \times x \times x \times x \times a \times a \times b \times b \times b = x^4a^2b^3$

$ii\ (-2) \times (-2) \times (-2) \times (-2) \times a \times a \times a = (-2)^4 \times a^3$

$iii\ \left(\frac{-2}{3}\right) \times \left(\frac{-2}{3}\right) \times x \times x \times x = \left(\frac{-2}{3}\right)^2 \times x^3$

Question:10

Express each of the following numbers in exponential form:

i 512

ii 625

iii 729

Solution:

We have

i Prime factorisation of 512 = 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 2^9

ii Prime factorisation of 625 = 5 x 5 x 5 x 5 = 5^4

iii Prime factorisation of 729 = 3 x 3 x 3 x 3 x 3 x 3 = 3^6

Question:11

Express each of the following numbers as a product of powers of their prime factors:

i 36

ii 675

iii 392

Solution:

We have

i Prime factorisation of 36 = 2 x 2 x 3 x 3 = 2^2 x 3^2

ii Prime factorisation of 675 = 3 x 3 x 3 x 5 x 5 = 3^3 x 5^2

iii Prime factorisation of 392 = 2 x 2 x 2 x 7 x 7 = 2^3 x 7^2

Question:12

Express each of the following numbers as a product of powers of their prime factors:

i 450

ii 2800

iii 24000

Solution:

We have

i Prime factorisation of 450 = 2 x 3 x 3 x 5 x 5 = 2 x 3^2 x 5^2

ii Prime factorisation of 2800 = 2 x 2 x 2 x 2 x 5 x 5 x 7 = 2^4 x 5^2 x 7

iii Prime factorisation of 24000 = 2 x 2 x 2 x 2 x 2 x 2 x 3 x 5 x 5 x 5 = 2^6 x 3 x 5^3

Question:13

Express each of the following as a rational number of the form $\frac{p}{q}$:

$i\ \left(\frac{3}{7}\right)^2$

$ii\ \left(\frac{7}{9}\right)^3$

$iii\ \left(\frac{-2}{3}\right)^4$

Solution:

We have

$i\ \left(\frac{3}{7}\right)^2 = \frac{3}{7} \times \frac{3}{7} = \frac{9}{49}$

$ii\ \left(\frac{7}{9}\right)^3 = \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} = \frac{343}{729}$

$iii\ \left(\frac{-2}{3}\right)^4 = \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} = \frac{16}{81}$

Question:14

Express each of the following rational numbers in power notation:

$i\ \frac{49}{64}$

$ii -\frac{64}{125}$

$iii -\frac{1}{216}$

Solution:

We have

$i\ \frac{49}{64} = \frac{7}{8} \times \frac{7}{8} = \frac{(7)^2}{(8)^2} = \left(\frac{7}{8}\right)^2$

$ii -\frac{64}{125} = -\frac{4}{5} \times -\frac{4}{5} \times -\frac{4}{5} = -\frac{(4)^3}{(5)^3} = \left(-\frac{4}{5}\right)^3$

$iii -\frac{1}{216} = \frac{-1}{6} \times \frac{-1}{6} \times \frac{-1}{6} = \frac{(-1)^3}{(6)^3} = \left(\frac{-1}{6}\right)^3$

Question:15

Find the value of each of the following:

$i\ \left(\frac{-1}{2}\right)^2 \times 2^3 \times \left(\frac{3}{4}\right)^2$

$ii\ \left(\frac{-3}{5}\right)^4 \times \left(\frac{4}{9}\right)^4 \times \left(\frac{-15}{18}\right)^2$

Solution:

We have

i

$\left(\frac{-1}{2}\right)^2 \times 2^3 \times \left(\frac{3}{4}\right)^2 = \frac{1}{4} \times 8 \times \frac{9}{16} = \frac{1}{4} \times \frac{9}{2} = \frac{9}{8} \qquad \left[\text{Since } \left(\frac{-1}{2}\right)^2 = \frac{1}{4},\ 2^3 = 8 \text{ and } \left(\frac{3}{4}\right)^2 = \frac{9}{16}\right]$

ii

$\left(\frac{-3}{5}\right)^4 \times \left(\frac{4}{9}\right)^4 \times \left(\frac{-15}{18}\right)^2 = \frac{(-3)^4}{5^4} \times \frac{4^4}{9^4} \times \left(\frac{-3\times5}{2\times9}\right)^2 = \frac{(-3)^4}{5^4} \times \frac{4^4}{9^2\times9^2} \times \left(\frac{-3\times5}{2\times9}\right)^2 = \frac{81}{5^4} \times \frac{4^4}{81\times9^2} \times \frac{(-3)^2\times5^2}{2^2\times9^2} = \frac{1}{5^4} \times \frac{4^4}{9^2} \times \frac{(-3)^2\times5^2}{2^2\times9^2} = \frac{1}{5^4} \times \frac{4^4}{9^2} \times \frac{9\times5^2}{4\times9^2} = \frac{1}{5^2} \times \frac{4^3}{9^2} \times \frac{1}{9} =$

Question:16

If $a = 2$ and $b = 3$, then find the values of each of the following:

$i\ (a + b)^a$

$ii\ (ab)^b$

$iii\ \left(\frac{b}{a}\right)^b$

$iv\ \left(\frac{a}{b} + \frac{b}{a}\right)^a$

Solution:

We have $a = 2$ and $b = 3$.

Thus,

$i\ (a + b)^a = 2 + 3^2 = 5^2 = 25$

$ii\ (ab)^b = 2x3^3 = 6^3 = 216$

$iii\ \left(\frac{b}{a}\right)^b = \left(\frac{3}{2}\right)^3 = \frac{3}{2} \times \frac{3}{2} \times \frac{3}{2} = \frac{27}{8}$

$iv\ \left(\frac{a}{b} + \frac{b}{a}\right)^a = \left(\frac{2}{3} + \frac{3}{2}\right)^2 = \left(\frac{4+9}{6}\right)^2 = \left(\frac{13}{6}\right)^2 = \frac{169}{36}$

Question:17

Using laws of exponents, simplify and write the answer in exponential form:

$i\ 2^3 \times 2^4 \times 2^5$

$ii\ 5^{12} \div 5^3$

$iii\ (7^2)^3$

$iv\ (3^2)^5 \div 3^4$

$v\ 3^7 \times 2^7$

$vi\ (5^{21} \div 5^{13}) \times 5^7$

Solution:

We have

$i\ 2^3 \times 2^4 \times 2^5 = 2^{3+4+5} = 2^{12}$ [since $a^m + a^n + a^p = a^{m+n+p}$]

$ii\ 5^{12} \div 5^3 = \frac{5^{12}}{5^3} = 5^{12-3} = 5^9$ [since $a^m \div a^n = a^{m-n}$]

$iii\ (7^2)^3 = 7^6$ [since $(a^m)^n = a^{mn}$]

$iv (3^2)^5 \div 3^4 = 3^{10} \div 3^4$ [since $(a^m)^n = a^{mn}$]

$= 3^{10-4} = 3^6$ [since $a^m \div a^n = a^{m-n}$]

$v\ 3^7 \times 2^7 = 3x2^7 = 6^7$ [since $a^m \times b^m = axb^m$]

$vi\ (5^{21} \div 5^{13}) \times 5^7 = 5^{21-13} \times 5^7$ [since $a^m \div a^n = a^{m-n}$]

$= 5^8 \times 5^7$ [since $a^m \times b^n = a^{m+n}$]

$= 5^{8+7}$

$= 5^{15}$

Question:18

Simplify and express each of the following in exponential form:

$i\ \left\{\left(2^3\right)^4 \times 2^8\right\} \div 2^{12}$

$ii\ (8^2 \times 8^4) \div 8^3$

$iii\ \left(\frac{5^7}{5^2}\right) \times 5^3$

$iv\ \frac{5^4 \times x^{10} y^5}{5^4 \times x^7 y^4}$

Solution:

We have

$i\ \{(2^3)^4 \times 2^8\} \div 2^{12}$

$= \{2^{12} \times 2^8\} \div 2^{12}$

$= 2^{12+8} \div 2^{12}$

$= 2^{20} \div 2^{12}$

$= 2^{20-12} = 2^8$

$ii\ (8^2 \times 8^4) \div 8^3$

$= 8^{2+4} \div 8^3$

$= 8^6 \div 8^3$

$= 8^{6-3} = 8^3 = (2^3)^3 = 2^9$

$iii\ \left(\frac{5^7}{5^2}\right) \times 5^3 = 5^{7-2} \times 5^3$

$= 5^5 \times 5^3$

$= 5^{5+3} = 5^8$

$iv\ \frac{5^4 \times x^{10} y^5}{5^4 \times x^7 y^4} = 5^{(4-4)} \times x^{(10-7)} \times y^{(5-4)}$

$= 5^0 \times x^3 \times y$ [since $5^0 = 1$]

$= 1 \times x^3 y = x^3 y$

Question:19

Simplify and express each of the following in exponential form:

$i\ \left\{\left(3^2\right)^3 \times 2^6\right\} \times 5^6$

$ii\ \left(\frac{x}{y}\right)^{12} \times y^{24} \times \left(2^3\right)^4$

$iii\ \left(\frac{5}{2}\right)^6 \times \left(\frac{5}{2}\right)^2$

$iv\ \left(\frac{2}{3}\right)^5 \times \left(\frac{3}{5}\right)^5$

Solution:

We have

$i\ \{(3^2)^3 \times 2^6\} \times 5^6$

$= \{3^6 \times 2^6\} \times 5^6$ [since $(a^m)^n = a^{mn}$]

$= 6^6 \times 5^6$ [since $a^m \times b^m = axb^m$]

$= 30^6$

ii

$\left(\frac{x}{y}\right)^{12} \times y^{24} \times \left(2^3\right)^4$

$= \frac{x^{12}}{y^{12}} \times y^{24} \times 2^{12}$

$= x^{12} \times \frac{y^{24}}{y^{12}} \times 2^{12}$
$= x^{12} \times y^{24-12} \times 2^{12}$
$= x^{12} \times y^{12} \times 2^{12}$
$= (2xy)^{12}\ [\text{since } a^m \times b^m \times c^m = (a \times b \times c)^m]$
iii
$\left(\frac{5}{2}\right)^6 \times \left(\frac{5}{2}\right)^2$
$= \left(\frac{5}{2}\right)^8 \left[\text{since } a^m \times a^n = a^{m+n}\right]$

iv
$\left(\frac{2}{3}\right)^5 \times \left(\frac{3}{5}\right)^5$
$= \left(\frac{2}{3} \times \frac{3}{5}\right)^5 \left[\text{since } a^m \times b^m = \left(a \times b\right)^m\right]$

Question:20

Write 9 × 9 × 9 × 9 × 9 in exponential form with base 3.

Solution:

We have

9 x 9 x 9 x 9 x 9 $= 9^5 = (3^2)^5 = 3^{10}$

Question:21

Simplify and write each of the following in exponential form:

i $25^3 \div 5^3$

ii $81^5 \div (3^2)^5$

iii

iv

Solution:

We have

i $25^3 \div 5^3$

$= (5^2)^3 \div 5^3$

$= 5^6 \div 5^3$

=

ii $81^5 \div (3^2)^5$

$= (3^4)^5 \div (3^2)^5$

$= 3^{20} \div 3^{10}$

=

iii

$16\text{-}12 \times (x)^{10\text{-}6} = 3^4 \times x^4 = (3x)^4$

iv

Question:22

Simplify:

i

ii

iii

iv

Solution:

We have

i $(3^5)^{11} \times (3^{15})^4 - (3^5)^{18} \times (3^5)^5$

$= 3^{55} \times 3^{60} - 3^{90} \times 3^{25}$

$= 3^{55+60} - 3^{90+25}$

$= 3^{115} - 3^{115}$

$= 0$

ii

=

iii

iv

Question:23

Find the values of *n* in each of the following:

i

ii

iii

iv

v

vi

Solution:

We have

i $5^{2n} \times 5^3 = 5^{11}$

$= 5^{2n+3} = 5^{11}$

On equating the coefficients, we get

$2n + 3 = 11$

$\Rightarrow 2n = 11 - 3$

$\Rightarrow 2n = 8$

$\Rightarrow n =$

ii $9 \times 3^n = 3^7$

$= 3^2 \times 3^n = 3^7$

$= 3^{2+n} = 3^7$

On equating the coefficients, we get

$2 + n = 7$

$\Rightarrow n = 7 - 2 = 5$

iii $8 \times 2^{n+2} = 32$

$= 2^3 \times 2^{n+2} = 2^5$ [since $2^3 = 8$ and $2^5 = 32$]

$= 2^{3+n+2} = 2^5$

On equating the coefficients, we get

$3 + n + 2 = 5$

$\Rightarrow n + 5 = 5$

$\Rightarrow n = 5 - 5$

$\Rightarrow n = 0$

iv $7^{2n+1} \div 49 = 7^3$

$= 7^{2n+1} \div 7^2 = 7^3$ [since $49 = 7^2$]

$= 7^{2n-1} = 7^3$

On equating the coefficients, we get

$2n - 1 = 3$

$\Rightarrow 2n = 3 + 1$

$\Rightarrow 2n = 4$

$\Rightarrow n =$

v

On equating the coefficients, we get

$2n + 1 = 9$

$\Rightarrow 2n = 9 - 1$

$\Rightarrow 2n = 8$

$\Rightarrow n =$

vi

On equating the coefficients, we get

$\Rightarrow 0 = 2n - 2$

$\Rightarrow 2n = 2$

$\Rightarrow n =$

Question:24

If , find the value of *n*.

Solution:

We have

On equating the coefficients, we get

$3n - 15 = -3$

$\Rightarrow 3n = -3 + 15$

$\Rightarrow 3n = 12$

$\Rightarrow n =$

Question:25

Express the following numbers in the standard form:

i 3908.78

ii 5,00,00,000

iii 3,18,65,00,000

iv 846×10^7

v 723×10^9

Solution:

We have

i $3908.78 = 3.90878 \times 10^3$ since the decimal point is moved 3 places to the left

ii $5,00,00,000 = 5,00,00,000.00 = 5 \times 10^7$ since the decimal point is moved 7 places to the left

iii 3,18,65,00,000 = 3,18,65,00,000.00

$= 3.1865 \times 10^9$ since the decimal point is moved 9 places to the left

iv $846 \times 10^7 = 8.46 \times 10^2 \times 10^7$ since the decimal point is moved 2 places to the left

$= 8.46 \times 10^9$ [since $a^m \times a^n = a^{m+n}$]

v $723 \times 10^9 = 7.23 \times 10^2 \times 10^9$ since the decimal point is moved 2 places to the left

$= 7.23 \times 10^{11}$ [since $a^m \times a^n = a^{m+n}$]

Question:26

Write the following numbers in the usual form:

i 4.83×10^7

ii 3.21×10^5

iii 3.5×10^3

Solution:

We have

i $4.83 \times 10^7 = 483 \times 10^{7-2}$ since the decimal point is moved two places to the right

$= 483 \times 10^5 = 4,83,00,000$

ii $3.21 \times 10^5 = 321 \times 10^{5-2}$ since the decimal point is moved two places to the right

$= 321 \times 10^3 = 3,21,000$

iii $3.5 \times 10^3 = 35 \times 10^{3-1}$ since the decimal point is moved one place to the right

$= 35 \times 10^2 = 3,500$

Question:27

Express the numbers appearing in the following statements in the standard form:

i The distance between the Earth and the Moon is 384,000,000 metres.

ii Diameter of the Earth is 1,27,56,000 metres.

iii Diameter of the Sun is 1,400,000,000 metres.

iv The universe is estimated to be about 12,000,000,000 years old.

Solution:

We have

i The distance between the Earth and the Moon is 3.84×10^8 metres.

Since the decimal point is moved 8 places to the left.

ii The diameter of the Earth is 1.2756×10^7 metres.

Since the decimal point is moved 7 places to the left.

iii The diameter of the Sun is 1.4×10^9 metres.

Since the decimal point is moved 9 places to the left.

iv The universe is estimated to be about 1.2×10^{10} years old.

Since the decimal point is moved 10 places to the left.

Question:28

Write the following numbers in the expanded exponential forms:

i 20068

ii 420719

iii 7805192

iv 5004132

v 927303

Solution:

We have

i $20068 = 2 \times 10^4 + 0 \times 10^3 + 0 \times 10^2 + 6 \times 10^1 + 8 \times 10^0$

ii $420719 = 4 \times 10^5 + 2 \times 10^4 + 0 \times 10^3 + 7 \times 10^2 + 1 \times 10^1 + 9 \times 10^0$

iii $7805192 = 7 \times 10^6 + 8 \times 10^5 + 0 \times 10^4 + 5 \times 10^3 + 1 \times 10^2 + 9 \times 10^1 + 2 \times 10^0$

iv $5004132 = 5 \times 10^6 + 0 \times 10^5 + 0 \times 10^4\ 4 \times 10^3 + 1 \times 10^2 + 3 \times 10^1 + 2 \times 10^0$

v $927303 = 9 \times 10^5 + 2 \times 10^4\ + 7 \times 10^3 + 3 \times 10^2 + \ 0 \times 10^1 + 3 \times 10^0$

Note: $a^0 = 1$

Question:29

Find the number from each of the following expanded forms:

i $7 \times 10^4 + 6 \times 10^3 + 0 \times 10^2 + 4 \times 10^1 + 5 \times 10^0$

ii $5 \times 10^5 + 4 \times 10^4 + 2 \times 10^3 + 3 \times 10^0$

iii $9 \times 10^5 + 5 \times 10^2 + 3 \times 10^1$

iv $3 \times 10^4 + 4 \times 10^2 + 5 \times 10^0$

Solution:

We have

i $7 \times 10^4 + 6 \times 10^3 + 0 \times 10^2 + 4 \times 10^1 + 5 \times 10^0$

$= 7 \times 10000 + 6 \times 1000 + 0 \times 100 + 4 \times 10 + 5 \times 1 = 76045$

ii $5 \times 10^5 + 4 \times 10^4 + 2 \times 10^3 + 3 \times 10^0$

$= 5 \times 100000 + 4 \times 10000 + 2 \times 1000 + 3 \times 1 = 542003$

iii $9 \times 10^5 + 5 \times 10^2 + 3 \times 10^1$

$= 9 \times 100000 + 5 \times 100 + 3 \times 10 = 900530$

iv $3 \times 10^4 + 4 \times 10^2 + 5 \times 10^0$

$= 3 \times 10000 + 4 \times 100 + 5 \times 1 = 30405$

Question:30

Mark the correct alternative in the following question:

Solution:

Hence, the correct alternative is option b.

Question:31

Mark the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option d.

Question:32

Mark the correct alternative in the following question:

Solution:

Hence, the correct alternative is option c.

Question:33

Mark the correct alternative in the folowing question:

Solution:

Since,

Hence, the correct alternative is option c.

Question:34

Mark the correct alternative in the folowing question:

Solution:

Since,

Hence, the correct alternative is option is d.

Question:35

Mark the correct alternative in the folowing question:

Solution:

Since,

Hence, the correct alternative is option b.

Question:36

Mark the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option a.

Question:37

Mark the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option b.

Question:38

Mark the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option c.

Question:39

Mark the correct alternative in the following question:

Solution:

Hence, the correct alternative is option a.

Question:40

Mark the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option b.

Question:41
Mark the correct alternative in the following question:

Solution:
Since,

Hence, the correct alternative is option b.

Question:42
Mark the correct alternative in the following question:

Solution:

Question:43
Mark the correct alternative in the following question:

Solution:
Since,

Hence, the correct alternative is option c.

Question:44
Mark the correct alternative in the following question:

Solution:
Since,

Hence, the correct alternative is option c.

Question:45
Mark the correct alternative in the following question:

Solution:
Since,

Hence, the correct alternative is option a.

Question:46
Mark the correct alternative in the following question:

Solution:

Hence, the correct alternative is option a.

Question:47
Mark the correct alternative in the following question:

Solution:

So, 6^5 should be multiplied.

Hence, the correct alternative is option b.

Question:48
Mark the correct alternative in the following question:

Solution:
Since,

Hence, the correct option is a.

Question:49
Choose the correct alternative in the following question:

Solution:

Hence, the correct alternative is option a.

Question:50
Choose the correct alternative in the following question:

The number 4,70,394 in standard form is written as

a 4.70394×10^5 b 4.70394×10^4 c 47.0394×10^4 d 4703.94×10^2
Solution:
Since, $4,70,394 = 4.70394 \times 100000 = 4.70394 \times 10^5$.

So, the number 4,70,394 in standard form is written as 4.70394×10^5.

Hence, the correct alternative is option a.

Question:51
Choose the correct alternative in the following question:

The number $2.35\ 10^4$ in the usual form is written as

a 2.35×10^3 b 23500 c 2350000 d 235×10^4
Solution:
Since, $2.35 \times 10^4 = 2.35 \times 10000 = 23500$

So, the number 2.35×10^4 in the usual form is written as 23500.

Hence, the correct alternative is option b.

Question:52
Choose the correct alternative in the following question:

Solution:

Hence, the correct alternative is option b.

Question:53

Choose the correct alternative in the following question:

Solution:

Hence, the correct alternative is option b.

Question:54

Choose the correct alternative in the following question:

Solution:

Since,

Hence, the correct alternative is option d.