

NCERT SOLUTIONS OF Exponents

Exercise 2

Question 1

Express the following numbers in standard form.

- (i) 0.0000000000085
- (ii) (0.00000000000942
- (iii) 6020000000000000
- (iv) 0.00000000837
- (v) 31860000000

Answer

- i) 0.0000000000085
 $=8.5 \times 10^{-12}$
- ii) 0.00000000000942
 $=9.42 \times 10^{-12}$
- iii) 6020000000000000
 $=6.02 \times 10^{15}$
- iv) 0.00000000837
 $=8.37 \times 10^{-9}$
- v) 31860000000
 $=3.186 \times 10^{10}$

Question 2

Express the following numbers in usual form.

- (i) 3.02×10^{-6}
- (ii) 4.5×10^4
- (iii) 3×10^{-8}

- (iv) 1.0001×10^9
- (v) 5.8×10^{12}
- (vi) 3.61492×10^6

Answer

- i) 3.02×10^{-6}
= .00000302
- ii) 4.5×10^4
=45000
- iii) 3×10^{-8}
=.00000003
- iv) 1.0001×10^9
=1000100000
- v) 5.8×10^{12}
=5800000000000
- vi) 3.61492×10^6
=3614920

Question 3

Express the number appearing in the following statements in standard form.

- (i) 1 micron is equal to 1/1000000 m.
- (ii) Charge of an electron is 0.000, 000, 000, 000, 000, 16 coulomb.
- (iii) Size of bacteria is 0.0000005 m
- (iv) Size of a plant cell is 0.00001275 m
- (v) Thickness of a thick paper is 0.07 mm

Answer

- i)
1/1000000
= 1×10^{-6}

ii) $0.000, 000, 000, 000, 000, 000, 16$
 $=1.6 \times 10^{-19}$

iii) 0.0000005
 $=5 \times 10^{-7}$

iv) 0.00001275
 $=1.275 \times 10^{-5}$

v) 0.07
 $=7 \times 10^{-2}$

Question 4

In a stack there are 5 books each of thickness 20 mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the stack?

Answer

Total thickness

$$=5 \times 20 + 5 \times 0.016$$

$$=100 + 5 \times 1.6 \times 10^{-2}$$

$$=100 + .08$$

$$=100.08 \text{ mm}$$