

# NCERT SOLUTIONS OF Exponents

## Exercise 2

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### 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)  $3.02 \times 10^{-6}$
- (ii)  $4.5 \times 10^4$
- (iii)  $3 \times 10^{-8}$

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

**Answer**

- i)  $3.02 \times 10^{-6}$   
= .00000302
- ii)  $4.5 \times 10^4$   
=45000
- iii)  $3 \times 10^{-8}$   
=.00000003
- iv)  $1.0001 \times 10^9$   
=1000100000
- v)  $5.8 \times 10^{12}$   
=5800000000000
- vi)  $3.61492 \times 10^6$   
=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  
= $1 \times 10^{-6}$

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

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

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

$$=100 + .08$$

$$=100.08 \text{ mm}$$