EXPONENTS AND POWERS

USE OF EXPONENTS IN EXPRESSING LARGE NUMBERS

EXERCISE

Q.1 Express the following numbers in standard form.

(i) 0.0000000000085

(ii) 0.00000000000942

(iii) 6020000000000000

(iv) 0.00000000837

(v) 31860000000

Q.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}

Q.3 Express the number appearing in the following statements in standard form.

(i) 1 micron is equal to $\dfrac{1}{1000000}$ m

(ii) Charge of an electron is 0.000,000,000,000,000,000,16 coulomb.

(iii) Size of a 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

Q.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.

Q.5 Write the following numbers in standard form:

(i) 0.4579   (ii) 0.000007

(iii) 0.000000564   (iv) 0.0000021

(v) 216000000   (vi) 0.0000529×10^4

(vii) 9573×10^{-4}

Q.6 Express the following numbers in usual form:

(i) 3.52×10^5

(ii) 7.54×10^{-4}

(iii) 3×10^{-5}

ANSWER KEY

1. (i) 8.5×10^{-12} (ii) 9.42×10^{-12} (iii) 6.02×10^{15}

(iv) 8.37×10^{-9} (v) 3.186×10^{10}

2. (i) 0.00000302   (ii) 45000   (iii) 0.00000003

(iv) 1000100000   (v) 5800000000000   (vi) 3614920

3. (i) 1×10^{-6} (ii) 1.6×10^{-19} (iii) 5×10^{-7}

(iv) 1.275×10^{-5} (v) 7×10^{-2}

4. 1.0008×10^2

5.   (i) 4.579×10^{-1} (ii) 7×10^{-6} (iii) 5.64×10^{-7}

      (iv) 2.1×10^{-6} (v) 2.16×10^{8} (vi) 5.29×10^{-1}

      (vii) 9.573×10^{-1}

6.   (i) 352000   (ii) 0.000754   (iii) 0.00003

5.   (i) 4.579×10^{-1} (ii) 7×10^{-6} (iii) 5.64×10^{-7}