MATHEMATICS

Class-7th

Chapter-13

Exponents and Powers

Exercise-13.3

By:-A.K.Jha

Q.3. Numbers in standard form.

(iv) 3,90,878
$$= 3.90878 \times 1,00,000$$
$$= 3.90878 \times 10^5.$$

(v) 39087.8
$$= 3.90878 \times 10,000$$
$$= 3.90878 \times 10^4$$

(vi) 3908.78
$$= 3.90878 \times 1000$$
$$= 3.90878 \times 10^3$$

Q.4. In standard form:

(a) The distance between Earth and the Moon.
$$= 384,000000$$
$$= 3.84 \times 100000000$$
$$= 3.84 \times 10^8 \text{ m.}$$

(b) Speed of Light in vacuum
$$= 300,000,000 \text{ m/s}$$
$$= 3.0 \times 100000000$$
$$= 3.0 \times 10^8 \text{ m/s}$$

(c) Diameter of Earth
$$= 1,27,56 000 \text{ m}$$

$= 1.2756 \times 1,00,00,000$

$= 1.2756 \times 10^7$ m. ✔

   It is required standard form.

(d) Diameter of sun

$= 1,400,000,000$ m

$= 1.4 \times 100000000000$

$= 1.4 \times 10^9$ m ✔

(e) In a galaxy number of average

stars $= 100,000,000,000$

$= 1.0 \times 100000000000$

$= 1.0 \times 10^{11}$. ✔

(f) Estimated age of universe

$= 12,000,000,000$ years

$= 1.2 \times 10000000000$

$= 1.2 \times 10^{10}$ years. ✔

(g) Estimated distance of sun from
  the centre of the Milky Way Galax

$= 300000000000000000000000$

$= 3.0 \times 10^{20}$ m ✔

  It is required standard form
                                      →

(h) In a drop of water weighing
        1·8 gms.
    number of water molecules

    = 60,230,000,000,000,000,000,000
    = 6·023 × 10000000000000000000000
    = $6·023 \times 10^{22}$. ✓

(i) Quantity of sea water on Earth.
    = 1353,000,000 cubic km.
    = 1·353 × 1000000000
    = $1·353 \times 10^{9}$ cubic km. ✓

(d) Population of India in March
        2001.

    = 1,027,000,000
    = 1·027 × 1000000000
    = $1·027 \times 10^{9}$ ✓

    It is required standard
            form.

    ───── × The End of ex 13·3.─
                        By A·K·Jha─