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DPP SOLUTION

Subject – Physical Chemistry

 Chapter – Some Basic Concept of Chemistry

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DPP No.- 02



The mass of one nucleon in a C-12 atom is equal to;

$$1$$
 4. 22 × 10⁻²⁰ kg

(2)
$$9.62 \times 10^{-27} \text{ kg}$$

$$(3)$$
 4.32 × 10⁻²³ kg

$$1.66 \times 10^{-27} \text{ kg}$$



The value of 1 amu is equal to;

- (1) 1/14 mass of 0-16
- (2) 1/14 mass of N-14
- (3) 1/12 mass of C-13
- 1/12 mass of C-12

lamu = mass of (12) of atom of C-12



The mass of an atom of atomic mass is 260 and is

- (2) 4.32 × 10⁻²³ g
- (3) 4.32 × 10⁻²⁴ g
- $4.32 \times 10^{-21} \,\mathrm{g}$

1 $4.32 \times 10^{-22} \, \text{g}$ 1 atom mass = 260 a.m.u. = 260 x 1.67 x 10⁻²⁴ q = $\frac{4.32 \times 10^{-23} \, \text{g}}{100}$ = $\frac{4.32 \times 10^{-24} \, \text{g}}{100}$ = $\frac{4.32 \times 10^{-24} \, \text{g}}{100}$ = $\frac{4.32 \times 10^{-24} \, \text{g}}{100}$



The mass of an atom of carbon -12 is:

- 1 1 g
- $2 1.99 \times 10^{-23} \,\mathrm{g}$
 - (3) 1/12 g
 - (4) 1.99 × 10²³ g

120

mass of lation (A.A.M.) = 12 amu. = $12 \times 1.67 \times 10^{24} \text{ g}$ = $19.9 \times 10^{24} \text{ g}$ = $\frac{19.9}{10} \times \frac{10}{10} \times \frac{10^{24}}{9} \text{ g}$ = $1.99 \times 10^{23} \text{ g}$



It is known that atom contain protons, neutrons and electrons. If the mass of neutron is assumed to half of its original value whereas that of proton is assumed to be twice of its original value then the atomic mass of ${}^{14}_{6}C$ will be:

- same

- 28.56% less

-1. age inc. =
$$\frac{1}{600}$$
 inc. in mass $x 100 = \frac{200}{1400}$ $x 100 = \frac{200}{1400}$ $= \frac{100}{1400} = 14.281$.

same

$$n = a \cdot m \cdot u$$
 $b = a \cdot m \cdot u$
 $b = 2a \cdot m \cdot u$

14.28% less

14.28% more

 $a \cdot m \cdot u = a \cdot m \cdot u$
 $a \cdot m \cdot u = a \cdot m \cdot u$

14.28% more

 $a \cdot m \cdot u = a \cdot m \cdot u$
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28.56% less

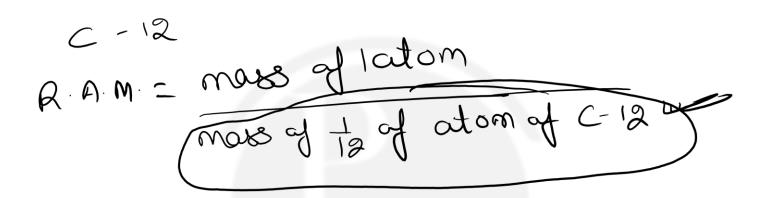
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 $a \cdot m \cdot u = a \cdot m \cdot u$



The modern atomic weight scale is based on



- $(2) 0^{16}$
- (3) H¹
- (4) C^{13}





What is the charge of 96 amu of S^{2-} ?

$$2) 3.2 \times 10^{-19} \,\mathrm{C}$$

$$9.6 \times 10^{-19} \,\mathrm{C}$$

196 amu of S²⁻? 16

32 a m u = 1 Sulphide (S²⁻)

96 a m u =
$$\frac{1}{3}$$
 x 96 = 3 Sulphide (S²)

 $e = \frac{1.6 \times 10^{-19}}{2}$

15 charge =
$$2e$$

35 = $3 \times 2e$
= $6 \times 1.6 \times 10^{-19} \text{ C}$
= $9.6 \times 6^{-19} \text{ C}$



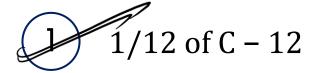
1u is equal to

$$|u:1.67\times10^{-24}g|=1.67\times10^{-27}N_A^{-2}$$

- $(1) 1.66 \times 10^{-24} \,\mathrm{g}$
- (2) $1.66 \times 10^{-27} \text{ kg}$
- (3) $1/N_A g$
- All of these



1 amu is equal to



- 2) 1/14 of 0 16
- (3) 1 g of H₂
- (4) 1.66 × 10⁻²³ kg



Mass of 1 amu in g

- (1) 1.66 × 10²⁴
- 1.66×10^{-24}
 - 3 1.008
 - (4) 9.1 × 10⁻²⁸





Let atomic mass of an element be A gram. Then mass of 10 atoms of element A in

amu is 10 A

Ans. (4

