Yakeen NEET 2.0 2026

DPP SOLUTION

- Subject – Physical Chemistry
- Chapter – Some Basic Concept of Chemistry

DPP No.- 02

By – Amit Mahajan Sir

Question-1

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

nucleon = protons + neutrons

1 a.m.u. = 1.67×10^{-27} kg

1. 4.22×10^{-20} kg
2. 9.62×10^{-27} kg
3. 4.32×10^{-23} kg
4. 1.66×10^{-27} kg

Ans. (4)

Question-2

The value of 1 amu is equal to;

1. 1/14 mass of O-16
2. 1/14 mass of N-14
3. 1/12 mass of C-13
4. 1/12 mass of C-12

1 amu = mass of $\frac{1}{12}$ of atom of C-12

Ans. (4)

Question-3

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

1. 4.32×10^{-22} g
2. 4.32×10^{-23} g
3. 4.32×10^{-24} g
4. 4.32×10^{-21} g

1 atom mass = 260 a.m.u.

$= 260 \times 1.67 \times 10^{-24}$ g

$= \frac{432}{100} \times 10^{-24}$ g $\times 100$

$= 4.32 \times 10^{-22}$ g

Ans. (1)

Question-4

The mass of an atom of carbon -12 is :

1. $1\ g$
2. $1.99 \times 10^{-23}\ g$
3. $1/12\ g$
4. $1.99 \times 10^{23}\ g$

$^{12}_{6}C$

mass of 1 atom (A.A.M.) = 12 amu

$= 12 \times 1.67 \times 10^{-24}\ g$

$= 19.9 \times 10^{-24}\ g$

$= \frac{19.9}{10} \times 10 \times 10^{-24}\ g$

$= 1.99 \times 10^{-23}\ g$

Ans. (2)

Question-5

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:

1. same
2. 14.28% less
3. 14.28% more
4. 28.56% less

n = a.m.u. $\quad p$ = a.m.u.

$n' = \frac{a.m.u}{2} \quad p' = 2\,a.m.u$

14 C
6

old atomic mass = $\underset{p}{6\,a.m.u.} + \underset{n}{8\,a.m.u.} = 14\,a.m.u$

new atomic mass = $2 \times 6\,a.m.u + 4\,a.m.u = 16\,a.m.u.$

inc. in mass = $16\,a.m.u. - 14\,a.m.u. = 2\,a.m.u.$

% age inc. = $\frac{\text{inc. in mass}}{\text{old at. mass}} \times 100 = \frac{2\,a.m.u.}{14\,a.m.u.} \times 100 = \frac{200}{14}$

$= \frac{100}{7} = 14.28\%$

Ans. (3)

Question-6

The modern atomic weight scale is based on

1. C^{12}
2. O^{16}
3. H^{1}
4. C^{13}

C - 12

R.A.M. = $\frac{\text{mass of 1 atom}}{\text{mass of } \frac{1}{12} \text{ of atom of C-12}}$

Ans. (1)

Question-7

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

32
16 S

1. 2C
2. 3.2×10^{-19} C
3. 9.6×10^{-19} C
4. 6C

32 a.m.u = 1 Sulphide (S^{2-})

96 a.m.u = $\frac{1}{32} \times 96$ = 3 Sulphur (S^{2-})

1 S^{2-} Charge = $2\bar{e}$

3 S^{2-} = $3 \times 2\bar{e}$

= $6 \times 1.6 \times 10^{-19}$ C

= 9.6×10^{-19} C

$\bar{e} = 1.6 \times 10^{-19}$ C

Ans. (3)

Question-8

1u is equal to

$1u = 1.67 \times 10^{-24} g = 1.67 \times 10^{-27} kg = \frac{1 \times 12}{12 N_A} g$

1. 1.66×10^{-24} g
2. 1.66×10^{-27} kg
3. $1/N_A$ g
4. All of these

Ans. (4)

Question-9

1 amu is equal to

1. 1/12 of C – 12
2. 1/14 of O – 16
3. 1 g of H_2
4. 1.66×10^{-23} kg

Ans. (1)

Question-10

Mass of 1 amu in g

1. 1.66×10^{24}
2. 1.66×10^{-24}
3. 1.008
4. 9.1×10^{-28}

Ans. (2)

Question-11

$1\ a.m.u. = 1.67 \times 10^{-24}\ g = \frac{1}{N_A}$

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

G.A.M. of element = A g | mass of 10 atoms = ?

N_A atoms mass = A g

1 atom mass = $\frac{A}{N_A}$ g

10 atoms mass = $\frac{10\ A}{N_A}$ g

$= \frac{10\ A}{N_A} \div \frac{1}{N_A}$

$= \frac{10A \times N_A}{N_A \times 1} = 10\ A$

1. $\frac{A}{10}$
2. $\frac{A}{6.023 \times 10^{23}}$
3. $10\ A$
4. $\frac{10\ A}{6.023 \times 10^{23}}$

Ans. (4)

Thank You...