

VAKKEEN NEET 2.0

2026

Some Basic Concept of Chemistry

Physical Chemistry

Lecture -15

By- Amit Mahajan Sir





Topics to be covered

- 1 Revision of Last Class
- 2 Cannizaro method, Vapour density
- 3 Precision & Accuracy, Significant figures
Trick
- 4
- 5 Magarmach Practice Questions (MPQ) & Home work from modules



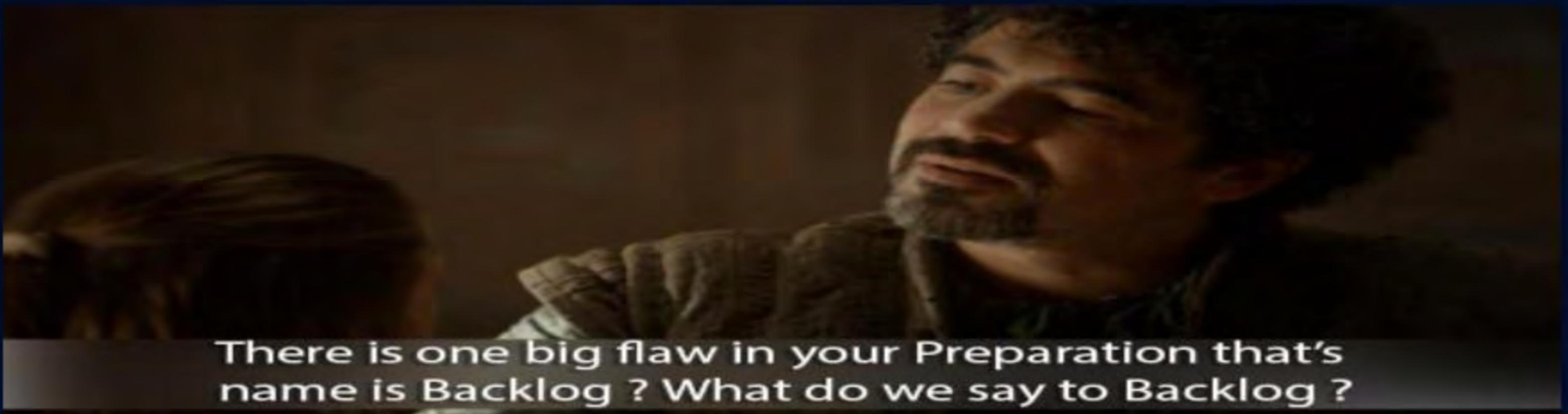
Rules to Attend Class

1. Always sit in a peaceful environment with headphone and be ready with your copy and pen.
2. Never ever attend a class from in between or don't join a live class in the middle of the chapter.
3. Make sure to revise the last class before attending the next class & always complete your Magarmach Practice Questions.
4. Never ever engage in chat whether live or recorded on the topic which is not being discussed in current class as by doing so u can be blocked by the admin team or your subscription can be cancelled.



Rules to Attend Class

5. Try to make maximum notes during the class if something is left then u can use the notes pdf after the class to complete the remaining class.
6. Always ask your doubts in doubt section to get answer from faculty. Before asking any doubt please check whether same doubt has been asked by someone or not.



There is one big flaw in your Preparation that's name is Backlog ? What do we say to Backlog ?



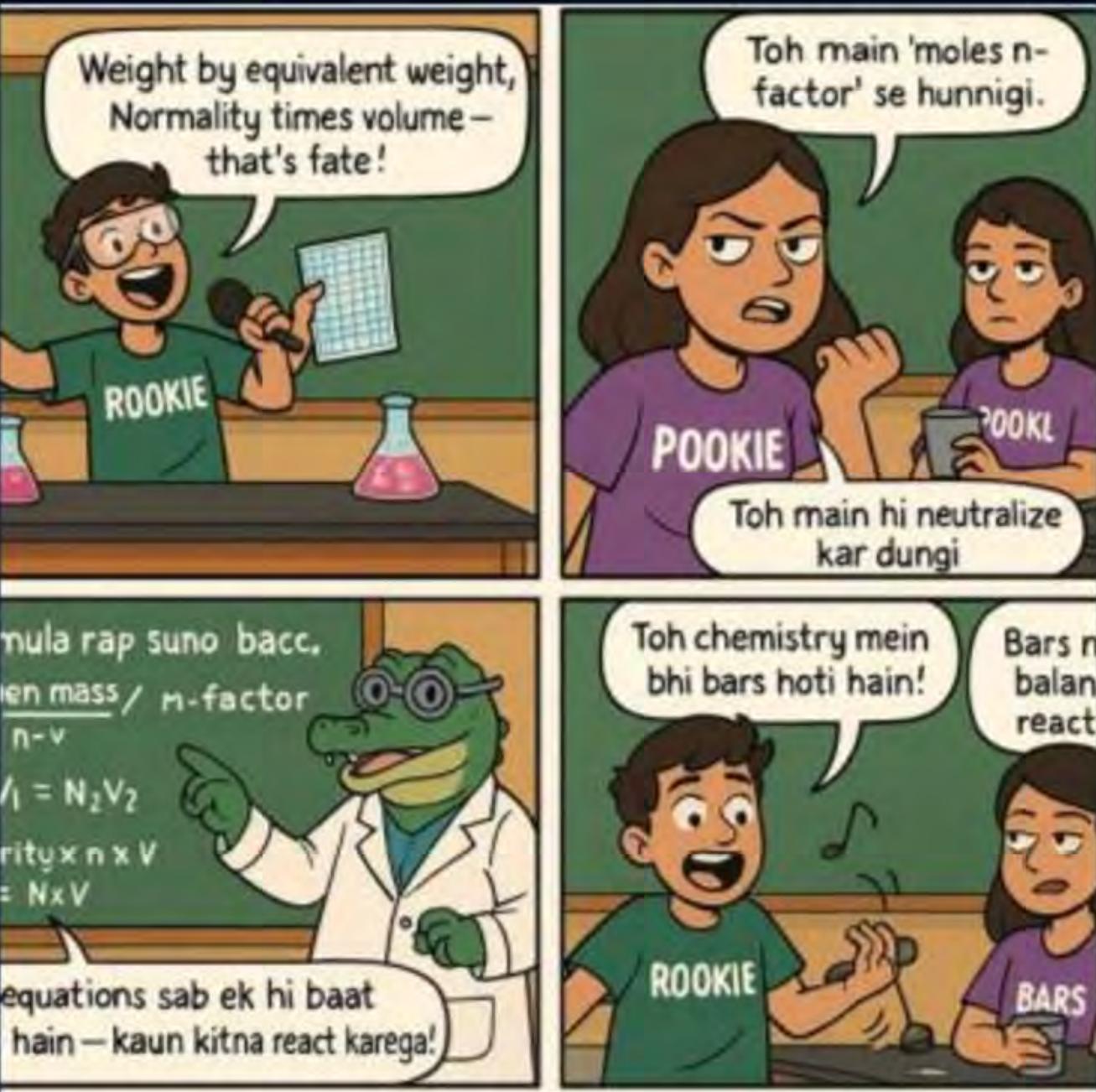
NOT TODAY !!!

Revision of Last class

$$q_{eq} = \frac{w}{E} = V(L) \times N = V(L) M \times n_f = moles \times n_f$$

law of equivalence

q_{eq} react each reactant = q_{eq} produce each product



The mole fraction of a solute in a solution is 0.1. At 298 K, molarity of this solution is the same as its molality. Density of this solution at 298 K is 2.0 g cm⁻³.

The ratio of the molecular weights of the solute and solvent, $\left(\frac{M_{\text{solute}}}{M_{\text{solvent}}}\right)$, is

$$\text{As } \frac{\chi_B}{\chi_A} = 0.1 \Rightarrow \frac{\chi_B}{\chi_A} = \frac{0.1}{0.9} = \frac{1}{9} \quad \left(\frac{n_B}{n_A} \right)$$

$$M = m$$

$$M = \frac{1000m/d}{1000 + m M_B}$$

$$1000 + m M_B = 2000$$

$$m M_B = 1000 \Rightarrow m = \frac{1000}{M_B}$$

$$M_B = \frac{1000}{m}$$

$$\frac{M_B}{M_A}$$

$$m = \frac{n_B \times 1000}{w_A(g)}$$

~~$$\frac{1000}{M_B} = \frac{w_B \times 1000}{M_B \times w_A}$$~~

$$w_B = w_A$$

$$\frac{n_B}{n_A} = \frac{1}{q} = \frac{\omega_B \times M_A}{M_B \times \omega_A}$$

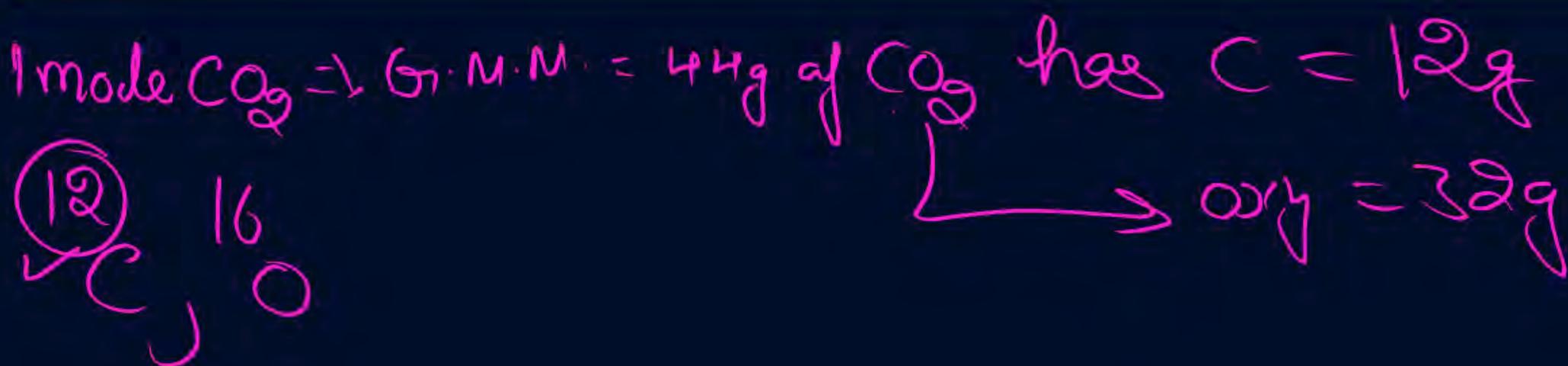
$$\boxed{\frac{M_B}{M_A} = \frac{q}{1}}$$

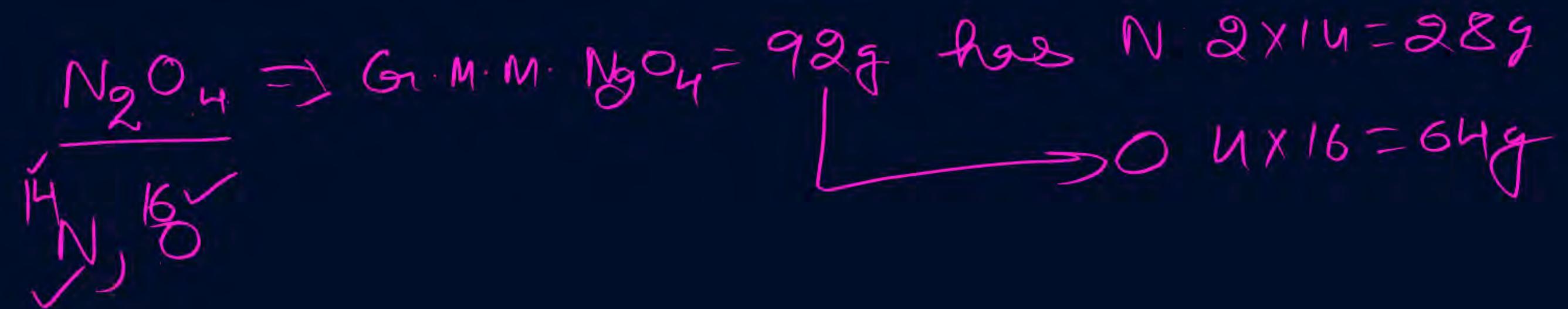


Cannizaro Method

MIT

1 mole Compd \Rightarrow each element has at least n atomic mass
 \downarrow
 $G \cdot M \cdot M$





QUESTION

32✓
S

A Protein has 3.2 % of Sulphur what can be the molar mass of Protein ?

- 1 2000
- 2 2500
- 3 1600
- 4 4900

100g Protein has S = 3.2 g

Minimum Possible
Molar mass

$$3.2 \text{ g S} \rightarrow \text{Protein} = 100 \text{ g}$$
$$32 \text{ g S} \rightarrow = \frac{100}{3.2} \times 32 = 1000 \text{ g}$$

Q. If an enzyme has 2% of C what can be the molar mass of enzyme?

- (a) 400g $\frac{12}{C}$
- (~~b~~) 1200g
- (c) 1600g
- (d) None of these

$$\begin{aligned} 2\text{g of C} \rightarrow \text{enzyme} &= 100\text{g} \\ 12\text{g} &\sim = \frac{100}{x} \times 12 \\ &= 600\text{g} \\ &1200\text{g} \\ &1600\text{g} \\ &2400\text{g} \end{aligned}$$

Hemoglobin contains 0.34% of iron by mass. The number of Fe atoms is 3.3 g of hemoglobin is : (Given : Atomic mass of Fe is 56 u, N_A in $6.022 \times 10^{23} \text{ mol}^{-1}$)

A

$$1.21 \times 10^5$$

B

$$12.0 \times 10^{16}$$

C

$$1.21 \times 10^{20}$$

D

$$3.4 \times 10^{22}$$

$$\begin{aligned} 0.34 \text{ g Fe} &\rightarrow \underline{\text{Hb}} = 100 \text{ g} \\ 56 \text{ g} & \xrightarrow{\frac{100 \text{ g}}{0.34} \times 56} = \frac{28}{17} \times 10^4 \\ &= 1.65 \times 10^4 \end{aligned}$$

$$\begin{aligned} \text{atoms} &= \frac{2}{1.65 \times 10^4} \times 6 \times 10^{23} \times 1 \\ &= 1.21 \times 10^{20} \end{aligned}$$

$$\begin{array}{r} 165 \\ 17) 98 \\ 17 \\ \hline 10 \\ 10) 2 \\ 2) 80 \\ \hline 0 \end{array}$$

QUESTION

 ^{56}Fe 

A 100 g sample of Haemoglobin on analysis was found to contain 0.34 % Fe by mass. If each haemoglobin molecule has four Fe^{2+} the molecular mass of haemoglobin is

- 1 77099.9 g
- 2 12735 g
- 3 65882 g
- 4 96359.9 g

$$\begin{aligned} 0.34 \text{ g Fe} &\rightarrow 100 \text{ g Hb} \\ 56 \text{ g} &\rightarrow \frac{100}{0.34} \times 56 \\ 4 \times 56 \text{ g} &\rightarrow \frac{10000 \times 56}{0.34} \times 4 \end{aligned}$$

$$6.6 \times 10^4 \approx 66000$$

$$\frac{4 \text{ Fe}^{2+} \text{ atoms}}{4 \times 56 = 224}$$



Loschmidt number

↓
1 ml gas at STP no. of molecules = 2.69×10^{19} particles/ml

$$PV = nRT$$

$$1 \times \frac{1}{1000} = n \times 0.0821 \times 273$$

$$n = \frac{1}{82.1 \times 273}$$

$$\text{molecules} = \frac{1}{82.1 \times 273} \times 6.022 \times 10^{23} = 2.69 \times 10^{19} \text{ particles/ml}$$

Vapour Density (V.D.)

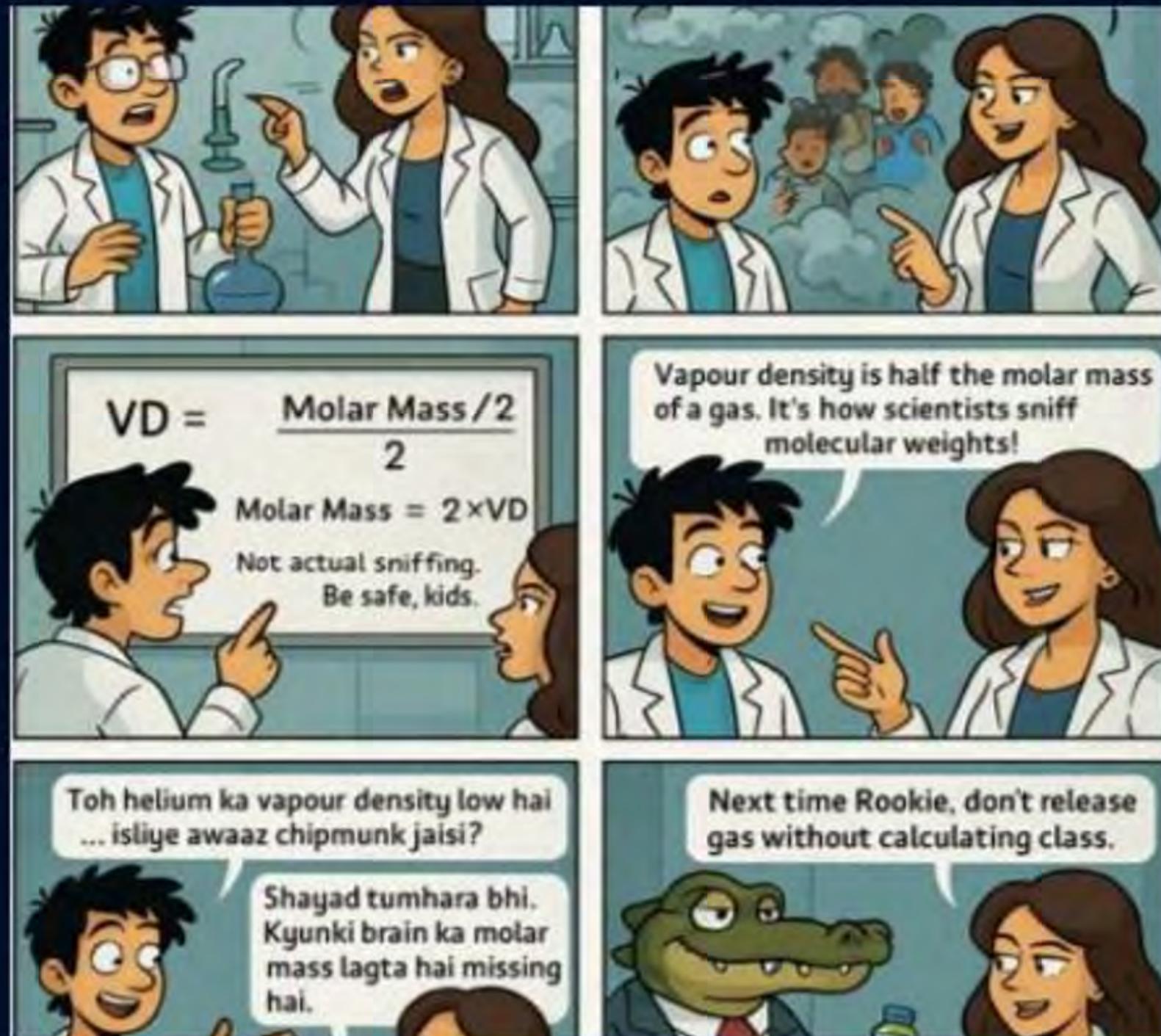
$V.D. = \frac{\text{mass of certain molecules of gas at N.T.P}}{H_2}$

$V.D. = \frac{\text{Molar mass of gas}}{H_2}$

$V.D. = \frac{\text{Molar mass of gas}}{2}$

MIT

Molar mass = $2 \times V.D.$



The molar mass of a gas was found to be 36 g/mol. What will be its vapour density?

A) 72

B) 18

C) 12

D) 6

$$\frac{G \cdot M \cdot M}{M \cdot M} = 2 \times V \cdot D$$
$$36 = 2 \times V \cdot D$$

6. Vapour density helps in determining:

A) Rate of reaction

B) Atomic number

C) Molecular mass of a gas

D) Boiling point

A gas has a vapour density of 2. Which gas is it most likely to be?

A) H₂

B) He

C) O₂

D) N₂

$$G \cdot M \cdot M = 2 \times 2 = 4 \text{ g/mol}$$
$$He$$

5. A hydrocarbon has a vapour density of 13. What is likely its molecular formula?

(Given empirical formula CH)

A) CH

B) C₂H₂

C) C₂H₄

D) C₂H₆

$$G \cdot M \cdot M = 2 \times 13 = 26 \text{ g}$$
$$M \cdot F \cdot = (E \cdot F \cdot) \times$$
$$x = \frac{26}{13} : 2 = C(H)_2$$
$$= C_2H_2$$

4. Which of the following gases will have the highest vapour density?

A) H₂

B) CH₄

C) CO₂

D) O₂

2. The vapour density of oxygen (O₂) is:

A) 8

B) 16

C) 32

D) 64

$$\frac{32}{2} = 16$$



Unit of Measurement

"A unit is defined as the standard of reference chosen to measure a physical quantity".



The International System of Units (SI Units)





(i) Fundamental Units

7



Base Physical Quantities and Their Units

Base Physical Quantity	Symbol for Quantity	Name of SI Unit	Symbol for SI Unit
Length	l	metre	m
Mass	m	kilogram	kg
Time	t	second	s
Electric current	I	ampere	A
Thermodynamic temperature	T	kelvin	K
Amount of substance	n	mole	mol
Luminous intensity	l_v	candela	cd



(ii) Derived Units

density, Pressure, Force, Area etc

$$\text{density} = \frac{\text{mass } (g)}{\text{Volume } (ml)}$$

→ g/ml



Prefixes

Some physical quantities are either too small or too large ... Change the order of magnitude, these are expressed by ... Prefixes before the name of the base units.

The various prefixes are listed in the following table.

Prefixes Used in SI System

Multiple	Prefix	Symbol	Multiple	Prefix	Symbol
$\checkmark 10^{-1}$	deci	d	$\checkmark 10^1$	deca	da
$\checkmark 10^{-2}$	centi	c	10^2	hector	h
$\checkmark 10^{-3}$	milli	m	$\checkmark 10^3$	kilo	k
$\checkmark 10^{-6}$	micro	μ	$\checkmark 10^6$	mega	M
$\checkmark 10^{-9}$	nano	n	10^9	giga	G
$\checkmark 10^{-12}$	pico	p	10^{12}	tera	T
10^{-15}	femto	f	10^{15}	peta	P
10^{-18}	atto	a	10^{18}	Exa	E
10^{-21}	zepto	z	10^{21}	zeta	Z
10^{-24}	yocto	y	10^{24}	yotta	Y

$$L = 2 \times 10^{-1} \text{ m}$$

$$= 2 \text{ dm}$$

$$\underline{\underline{L = 4 \times 10^{-3} \text{ m}}} \\ = 4 \text{ mm}$$

QUESTION

Density of water is 1 g cm^{-3} at 298 K. Express this value in SI unit.

$$d = 1 \text{ g/cm}^3$$

$$= \frac{10^3 \text{ kg/m}^3}{1000 \times 1}$$

$$= 10^3 \text{ kg/m}^3$$

$$1 \text{ Kg} = 1000 \text{ g}$$

$$\frac{1}{1000} \text{ Kg} = 1 \text{ g}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$\overline{1 \text{ m} \times 1 \text{ m} \times 1 \text{ m}} = 100 \times 100 \times 100 \text{ cm}^3$$

$$1 \text{ m}^3 = \underline{10^6 \text{ cm}^3}$$

$$\frac{1}{10^6} \text{ m}^3 = 1 \text{ cm}^3$$



Some Physical Quantities

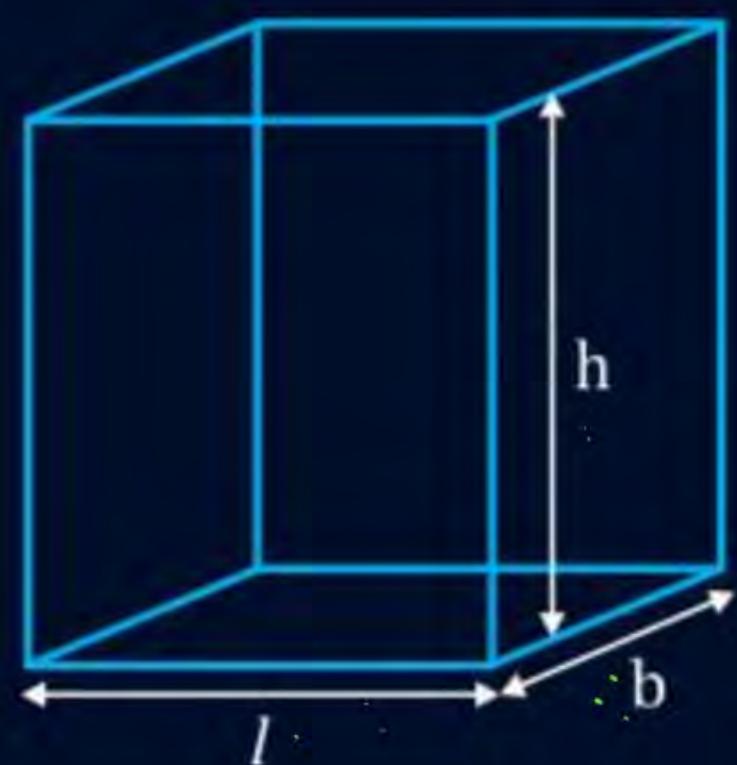
Mass and Weight:

Mass → quantity of matter contained in body

Mass SI unit → kg

Volume: $= l \times b \times h$

Space occupied by substance.



QUESTION



Convert 1 m³ = _____ L?

$$\begin{aligned}1 \text{ L} &= 1000 \text{ ml} \\&= 1000 \text{ cm}^3\end{aligned}$$

$$\begin{aligned}1 \text{ m}^3 &= 10^6 \text{ ml} \\&= \frac{10^6}{10^3} \text{ L}\end{aligned}$$

$$1 \text{ m}^3 = 10^3 \text{ L}$$

QUESTION

Convert $1\text{ L} = \underline{\hspace{2cm}}$ dm^3 ?

$$1\text{ L} = \underline{1000\text{ ml}} = \underline{\underline{1000\text{ cm}^3}}$$

$$1\text{ m} = 10\text{ dm}$$

$$1\text{ m} = 100\text{ cm}$$

$$1\text{ dm} = 10\text{ cm}$$

$$1\text{ dm} = 10\text{ cm}$$

$$1 \times 1 \times 1 \text{ dm}^3 = 10 \times 10 \times 10 \text{ cm}^3$$

$$1 \text{ dm}^3 = 1000 \text{ cm}^3 = 1\text{ L}$$

Temperature:

Degree of Hotness ^{or} of Coldness of body

Temperature measure different scales

$$\text{Temp in Kelvin} = \text{Temp in } {}^{\circ}\text{C} + 273$$

$$\text{Temp in } {}^{\circ}\text{F} = \frac{9}{5} \times \text{Temp } {}^{\circ}\text{C} + 32$$

QUESTION



Convert 25°C into Kelvin?

$$K = 25 + 273 = 298\text{ K}$$

QUESTION

Convert 40°C into °F?

$$^{\circ}\text{F} = \frac{9}{5} \times 40 + 32$$

$$^{\circ}\text{F} = 104^{\circ}\text{F}$$

MIX

Length:

1 mile = 1760 yards

1 yard = 3 feet

1 foot = 12 inch

1 inch = 2.54 cm

1 km = 1000 m

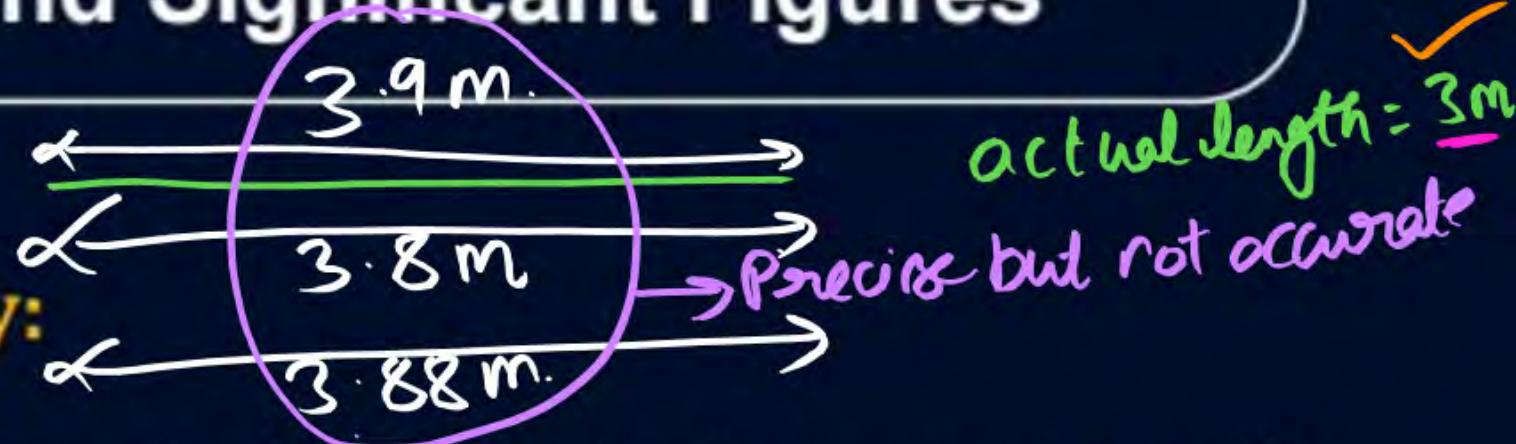
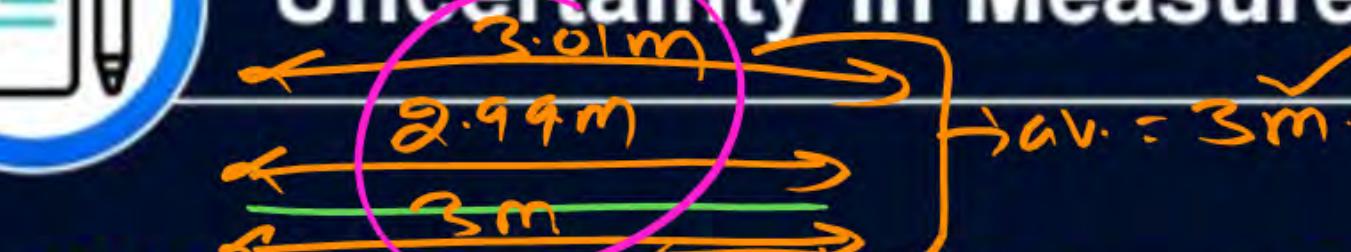
QUESTION

n.w

How many kilogram are contained in 1 μg ?



Uncertainty in Measurement and Significant Figures



Difference between Precision and Accuracy:

- ✓ If the average value of different measurements is close to the correct value, the measurement is said to be accurate (the individual measurements may not be close to each other)
- ✓ If the values of different measurements are close to each other and hence close to their average value, the measurement is said to be precise.

For example, suppose the actual length of the room is 10.5 m. Four different persons report the result of their five measurements as follows :

Measurements (m)	1	2	3	4	5	Average (m)
Person A	10.3	10.4	10.5	10.6	10.7	10.5 ✓
Person B	10.0	10.1	10.2	10.3	10.4	10.2
Person C	10.1	10.3	10.5	10.7	10.9	10.5
Person D	10.0	10.7	10.9	11.1	10.3	10.8

- ✓ Measurement by person A is both accurate and precise.
- ✓ Measurement by person B has poor accuracy but good precision
- ✓ Measurement by person C has poor precision but good accuracy.
- ✓ Measurement by person D has poor accuracy and poor precision.

QUESTION

Two students performed the same experiment separately and each one of them recorded two reading of mass which are given below. Correct reading of mass is 3.0 g. On the basis of given data, mark the correct option out of the following statements.

[NCERT Exemplar]

Student ✓

A → P, A
A

Observation

(i) (ii)
3.01 2.99

$$\text{avg} = \frac{3.01 + 2.99}{2} = 3$$

Student ✓

(B) → P X

Observation

(i) (ii)
3.05 2.95

$$\text{avg} = \frac{3.05 + 2.95}{2} = 3 \text{ m.}$$

1

X Results of both the students are neither accurate nor precise

2

Results of student A are both precise and accurate

3

Results of student B are neither precise nor accurate

4

Results of student B are both precise and accurate



Rounding Off

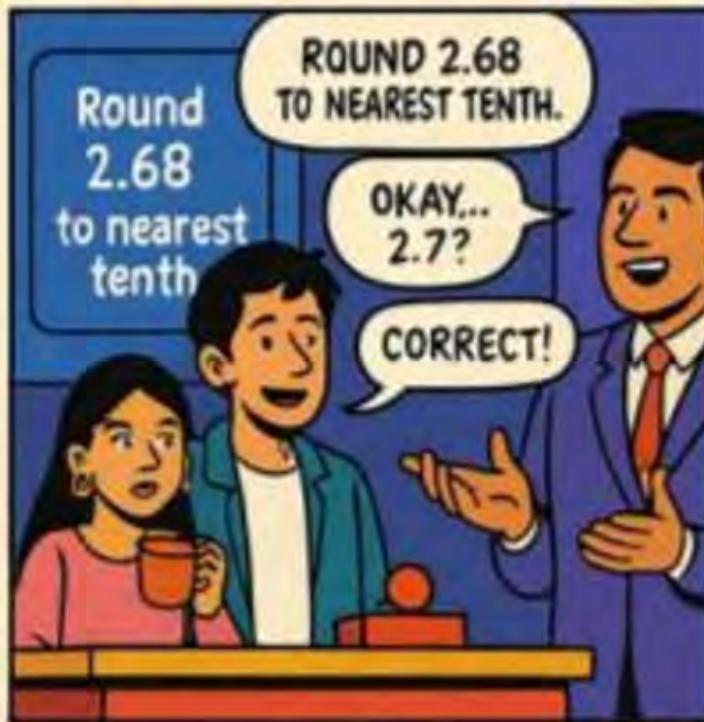
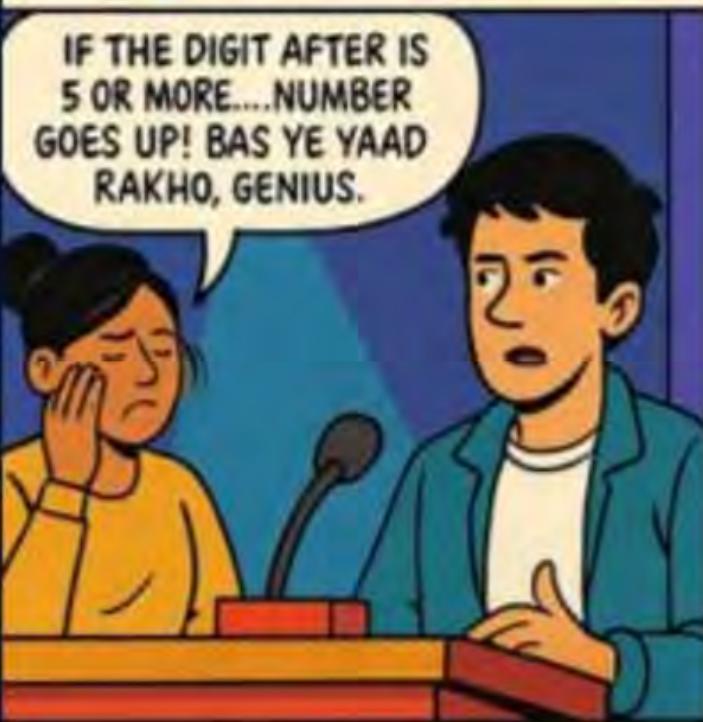
$$2.6\cancel{9} \quad = 2.7$$

$$\cancel{9} > 5 \quad | \quad 4.\cancel{3}1 \quad \text{X}$$

$$4.31$$

#M1

last digit always remove
 second last digit + 1 if last digit > 5
 No change < 5
 add 1 = 5
 if second last digit odd
 second last digit is even then no change in it
 if last digit = 5



~~2.635~~

~~2.64~~

~~2.625~~

2.62



Significant Figures

Total no. of digits in a number including the last digit whose value is uncertain are called significant figures.

2 3 5 6 ✓





Rules for Significant Figures

Rule 1 : All non-zero numbers as well as the zeros between the non-zero digits are significant.

$$4781 \rightarrow 4 \text{ S.F.}$$

$$20.09 \rightarrow 4 \text{ S.F.}$$

Rule 2 : Zeros to the left of the first non-zero digit in a number are not significant. (They simply indicate the position of the decimal point).

$$08 \rightarrow 1 \text{ S.F.}$$

$$003 \rightarrow 1 \text{ S.F.}$$

Rule 3 : If a number ends in zeros but these zeros are to the right of the decimal point, then these zeros are significant.

5.00

6.000

Rule 4 : If a number ends in zeros but these zeros are not to the right of a decimal point, these zeros may or may not be significant.

2500 S.F.
2

25.0 x 10² 3

25.00 x 10² 4

Rule 5 : If number of object is also written with digits, then digit has infinite number of significant figure as these are exact numbers.

15 eggs $\approx 5 \cdot 0 \times 10^1$

QUESTION*Do it yourself.*

How many significant figures are there in the following:

- (a) 0.0025 →
- (b) 208 →
- (c) 5005 →
- (d) 126000 →
- (e) 500.0 →
- (f) 2.0034 →



Rules for Determining the Number of Significant Figures in Answers Involving Calculation :

Rule 1 : The result of an addition or subtraction should be reported to the same number of decimal places as that of the term with least number of decimal places. The number of significant figures of different numbers have no role to play.

$$\begin{array}{r} 23.2 \\ + 46.938 \\ \hline \text{Ans has 1 decimal place.} \end{array}$$

Rule 2 : In multiplication or division, the final result should have significant figure equal to the number of minimum significant figures.

$$\text{SF } 2 \quad \begin{array}{l} \textcircled{2.3} \\ \times \underline{7.632} \\ \hline \end{array} = \text{Ans} \text{ should have 2 S.F.}$$

Rule 3 : If a calculation involves a number of steps, the result should contain the same number of significant figures as that of the least significant figure involved, other than the exact numbers.

$$\frac{\underline{2 \cdot 3} \times \underline{6 \cdot 924}}{\underline{12 \cdot 56}} = \text{ans } 2 \text{ S.F.}$$

QUESTION

How many significant figures should be present in the answer of following calculation? [NCERT Exemplar]

$$\frac{2.5 \times 1.25 \times 3.5}{2.01}$$

- 1** 2
- 2** 3
- 3** 4
- 4** 1

QUESTION

If the density of a solution is 3.12 g mL^{-1} , the mass of 1.5 mL solution in significant figures is
[NCERT Exemplar]

1 4.7 g

2 $4680 \times 10^{-3} \text{ g}$

3 4.680 g

4 46.80 g



Home work from modules

Solve all P'RQ→ exercise
4

Solve all questions of Significant figures
Precision, Accuracy & Rounding off



Magarmach Practice Questions (MPQ)

NEET PYQ ✓
AIIMS PYQ ✓
NCERT exemplar ✓



QUESTION (NCERT Exemplar)

A measured temperature on Fahrenheit scale is 200 °F. What will this reading be on Celsius scale?

A 40 °C

B 94 °C

C 93.3 °C

D 30 °C

QUESTION (NCERT Exemplar)

What will be the molarity of a solution, which contains 5.85 g of NaCl(s) per 500 mL?

- A 4 mol L^{-1}
- B 20 mol L^{-1}
- C 0.2 mol L^{-1}
- D 2 mol L^{-1}

QUESTION (NCERT Exemplar)

If 500 mL of a 5M solution is diluted to 1500 mL, what will be the molarity of the solution obtained?

A 1.5 M

B 1.66 M

C 0.017 M

D 1.59 M

QUESTION (NCERT Exemplar)

The number of atoms present in one mole of an element is equal to Avogadro number. Which of the following element contains the greatest number of atoms?

A 4g He

B 46g Na

C 0.40g Ca

D 12g He

QUESTION (NCERT Exemplar)

If the concentration of glucose ($C_6H_{12}O_6$) in blood is 0.9 g L^{-1} , what will be the molarity of glucose in blood?

- A** 5 M
- B** 50 M
- C** 0.005 M
- D** 0.5 M

QUESTION (NCERT Exemplar)

What will be the molality of the solution containing 18.25 g of HCl gas in 500 g of water?

A 0.1 m

B 1 M

C 0.5 m

D 1 m

QUESTION (NCERT Exemplar)

One mole of any substance contains 6.022×10^{23} atoms/molecules. Number of molecules of H_2SO_4 present in 100 mL of 0.02M H_2SO_4 solution is ____.

- A** 12.044×10^{20} molecules
- B** 6.022×10^{23} molecules
- C** 1×10^{23} molecules
- D** 12.044×10^{23} molecules

QUESTION (NCERT Exemplar)

What is the mass percent of carbon in carbon dioxide?

A 0.034 %

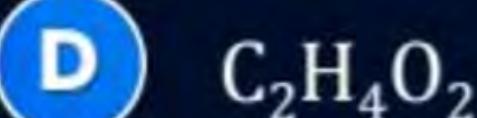
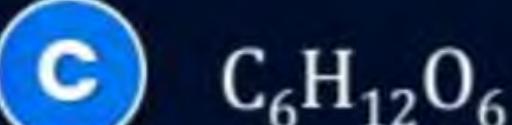
B 27.27 %

C 3.4 %

D 28.7 %

QUESTION (NCERT Exemplar)

The empirical formula and molecular mass of a compound are CH_2O and 180 g respectively. What will be the molecular formula of the compound?



QUESTION (NCERT Exemplar)

If the density of a solution is 3.12 g mL^{-1} , the mass of 1.5 mL solution in significant figures is ____.

A 4.7 g

B $4680 \times 10^{-3} \text{ g}$

C 4.680 g

D 46.80 g

QUESTION (NCERT Exemplar)

Which of the following statements about a compound is incorrect?

- A** A molecule of a compound has atoms of different elements.
- B** A compound cannot be separated into its constituent elements by physical methods of separation.
- C** A compound retains the physical properties of its constituent elements.
- D** The ratio of atoms of different elements in a compound is fixed.

QUESTION (NCERT Exemplar)

Which of the following statements is correct about the reaction given below:



- A** Total mass of iron and oxygen in reactants = total mass of iron and oxygen in product therefore it follows law of conservation of mass.
- B** Total mass of reactants = total mass of product; therefore, law of multiple proportions is followed.
- C** Amount of Fe_2O_3 can be increased by taking any one of the reactants (iron or oxygen) in excess.
- D** Amount of Fe_2O_3 produced will decrease if the amount of any one of the reactants (iron or oxygen) is taken in excess.

QUESTION (NCERT Exemplar)

Which of the following reactions is not correct according to the law of conservation of mass.

- A** $2\text{Mg(s)} + \text{O}_2\text{(g)} \rightarrow 2\text{MgO(s)}$
- B** $\text{C}_3\text{H}_8\text{(g)} + \text{O}_2\text{(g)} \rightarrow \text{CO}_2\text{(g)} + \text{H}_2\text{O(g)}$
- C** $\text{P}_4\text{(s)} + 5\text{O}_2\text{(g)} \rightarrow \text{P}_4\text{O}_{10}\text{(s)}$
- D** $\text{CH}_4\text{(g)} + 2\text{O}_2\text{(g)} \rightarrow \text{CO}_2\text{(g)} + 2\text{H}_2\text{O(g)}$

QUESTION (NCERT Exemplar)

Which of the following statements indicates that law of multiple proportion is being followed.

- A** Sample of carbon dioxide taken from any source will always have carbon and oxygen in the ratio 1 : 2.
- B** Carbon forms two oxides namely CO_2 and CO , where masses of oxygen which combine with fixed mass of carbon are in the simple ratio 2 : 1.
- C** When magnesium burns in oxygen, the amount of magnesium taken for the reaction is equal to the amount of magnesium in magnesium oxide formed.
- D** At constant temperature and pressure 200 mL of hydrogen will combine with 100 mL oxygen to produce 200 mL of water vapour.

MULTIPLE CHOICE QUESTIONS

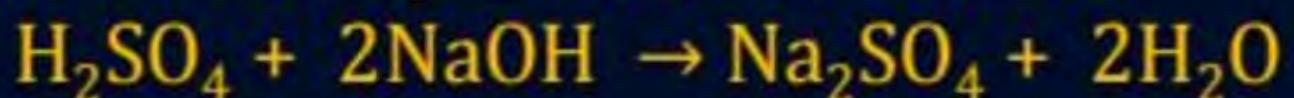
QUESTION* (NCERT Exemplar)

One mole of oxygen gas at STP is equal to _____.

- A** 6.022×10^{23} molecules of oxygen
- B** 6.022×10^{23} atoms of oxygen
- C** 16 g of oxygen
- D** 32 g of oxygen

QUESTION* (NCERT Exemplar)

Sulphuric acid reacts with sodium hydroxide as follows:



When 1L of 0.1M Sulphuric acid solution is allowed to react with 1L of 0.1M sodium hydroxide solution, the amount of sodium sulphate formed and its molarity in the solution obtained is:

- A** 0.1 mol L^{-1}
- B** 7.10 g
- C** 0.025 mol L^{-1}
- D** 3.55 g

QUESTION* (NCERT Exemplar)

Which of the following pairs have the same number of atoms?

- A** 16 g of $O_2(g)$ and 4 g of $H_2(g)$
- B** 16 g of O_2 and 44 g of CO_2
- C** 28 g of N_2 and 32 g of O_2
- D** 12 g of C(s) and 23 g of Na(s)

QUESTION* (NCERT Exemplar)

Which of the following solutions have the same concentration?

- A** 20 g of NaOH in 200 mL of solution
- B** 0.5 mol of KCl in 200 mL of solution
- C** 40 g of NaOH in 100 mL of solution
- D** 20 g of KOH in 200 mL of solution

QUESTION* (NCERT Exemplar)

16 g of oxygen has same number of molecules as in

- A** 16 g of CO
- B** 28 g of N_2
- C** 14 g of N_2
- D** 1.0 g of H_2

QUESTION* (NCERT Exemplar)

Which of the following terms are unitless?

- A** Molality
- B** Molarity
- C** Mole fraction
- D** Mass percent

QUESTION* (NCERT Exemplar)

One of the statements of Dalton's atomic theory is given below:

"Compounds are formed when atoms of different elements combine in a fixed ratio"

Which of the following laws is **not** related to this statement?

- A** Law of conservation of mass
- B** Law of definite proportions
- C** Law of multiple proportions
- D** Avogadro law

MATRIX MATCH TYPE QUESTIONS

QUESTION (NCERT Exemplar)

Match the following:

- | | |
|---|--------------------------------------|
| (i) 88 g of CO_2 | (a) 0.25 mol |
| (ii) 6.022×10^{23} molecules of H_2O | (b) 2 mol |
| (iii) 5.6 litres of O_2 at STP | (c) 1 mol |
| (iv) 96 g of O_2 | (d) 6.022×10^{23} molecules |
| (v) 1 mol of any gas | (e) 3 mol |

QUESTION (NCERT Exemplar)

Match the following physical quantities with units

Physical quantity	Unit
(i) Molarity	(a) g mL^{-1}
(ii) Mole fraction	(b) mol
(iii) Mole	(c) Pascal
(iv) Molality	(d) Unitless
(v) Pressure	(e) mol L^{-1}
(vi) Luminous intensity	(f) Candela
(vii) Density	(g) mol kg^{-1}
(viii) Mass	(h) Nm^{-1}
	(i) kg

ASSERTION AND REASON TYPE

QUESTION (NCERT Exemplar)

Assertion (A): The empirical mass of ethene is half of its molecular mass.

Reason (R): The empirical formula represents the simplest whole number ratio of various atoms present in a compound.

- A** Both A and R are true and R is the correct explanation of A.
- B** A is true but R is false.
- C** A is false but R is true.
- D** Both A and R are false.

QUESTION (NCERT Exemplar)

Assertion (A): One atomic mass unit is defined as one twelfth of the mass of one carbon-12 atom.

Reason (R): Carbon-12 isotope is the most abundant isotope of carbon and has been chosen as standard.

- A** Both A and R are true and R is the correct explanation of A.
- B** Both A and R are true but R is not the correct explanation of A.
- C** A is true but R is false.
- D** Both A and R are false.

QUESTION (NCERT Exemplar)

Assertion (A): Significant figures for 0.200 is 3 where as for 200 it is 1.

Reason (R): Zero at the end or right of a number are significant provided they are not on the right side of the decimal point.

- A** Both A and R are true and R is correct explanation of A.
- B** Both A and R are true but R is not a correct explanation of A.
- C** A is true but R is false.
- D** Both A and R are false.

QUESTION (NCERT Exemplar)

Assertion (A): Combustion of 16 g of methane gives 18 g of water.

Reason (R): In the combustion of methane, water is one of the products.

- A** Both A and R are true but R is not the correct explanation of A.
- B** A is true but R is false.
- C** A is false but R is true.
- D** Both A and R are false.

Download Our App



PW Books

Chapter 6
EVOLUTION

Evolutionary Biology is the study of history of life forms on earth. What exactly is evolution? To understand the changes in flora and fauna that have occurred over millions of years, we must have an understanding of the concept of life.

Evolutionary Biology is the study of history...

English Bengali + View language

Prithvee par laikhan vanison mein vanaspattiyon aur jeevan mein hue parivartanon ko samajheen ke tie. Itamen jeevan kee utpatthi ke sandarbh kee samajh hoisse chahie, yaane, prithvee ka vikas, sitaron ka aur vaastav mein brahmaard ka vikas.

See more... ID: C1

Ans. Follow-ups >

EVOLUTIO X

6.1 Evolution of human 18:29

7:59 4G 7:59

← PYQs

6.1 Origin of Life Board Exams

6.1 Origin of Life 3 PYQs

6.11.2012

1. The common characteristics between potato and tomato will be maximum at the level of their:

- Order
- Family
- Genus
- Division

Solution

6.11.2012

1. The common characteristics between potato and tomato will be maximum at the level of their:

- Order
- Family
- Genus

7:59 4G 7:59

Evolution Previous Year Questions

1 Type: Long Quesn

1. Type: Long Quesn

1. The common characteristics between potato and tomato will be maximum at the level of their:

- Order
- Family
- Genus

2 A

2 B

NCERT Books
powered by AI

Video Explanations
by Physics Wallah Teachers

Topic-wise
Previous Year Questions

10,000+
Practice Questions to Ace Exams

Redox reactions

Test → hec-1 to hec-4 → S MBOG

Chapter - 1

**THANK
YOU**