PRAYAS 2.0

FOR IIT - JEE 2023

Sarvesh Dixit Sir

Lecture - 01

Mole Concept

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01 Mole

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सोच हमेशा ऐसी रखो
जो मुझे आता है उसे मैं कर लूंगा
और जो मुझे नही आता
उसे मैं सीख लूंगा।

Teaching Experience

- 18 years of teaching experience
- Worked at H.O.D of Chemistry
- Ex. : Senior Faculty of Chemistry
  - Bansal Classes (Kota)
  - Career Point (Kota)
  - Narayana Delhi
- Mentored JEE Holding Ranks : 7, 19, 27 .....

Sarvesh Dixit Sir

Our Study Plan

- Attend all the Lectures
- Solve all the DPP's
- Be regular & avoid Backlogs
- Do not skip Tests
- Clear your Doubts
- Do Periodic Revision of CSD & Self Study
- Find Time for your Hobbies

Concept By Saurvesh dixit

Roadmap to JEE 2023

→ class

- Qsd (FUTURE JEE QUESTION)
  → Quest^{n} by Saurvesh dixit
- LECTURE NOTES
- Csd → Revision
- P.Y.Q (class me hi → all P.Y.Q.)
- Tsd (TEST OF FUTURE JEE QUESTION)
  → Test by S.D.
- RIVISION 1 Csd 1 question series per chapter

Content for Physical Chemistry

- Book: (NCERT CHEMISTRY)
- Reference Material : Class Notes (Csd)
- Things to Solve : 1. DPP
  2. Qsd and Tsd
  3. PW Modules (Periodic HW)
  4. PYQ

MATTER

Anything that has mass and occupied space (volume)

Ex → pen

Ex → Book

Ex → Sarvesh Sir

Ex → T.V.

Mass → X
Space occupied → X
} → non matter

Ex → Sound →

Ex → light →

Ex → Heat →

Ex → pyar (love) ⇒ non-matter

Ex →

Q select matter in given example

(a) Air → N_2, O_2, He etc

(b) H_2 gas →

(c) light

(d) A & B both ✓✓

Q Select the correct example of matter

90sec

Ans batao

A Sound

B Heat

C Book

D None of these

Q Which is not example of matter.

20sec

A Sound

B Pen

C Air

mass

D Water

Q How many species is not a example of matter, Light, Heat, Sound, Air, Water, wire, sun Light, Time, Love, Memories ,Energy, Phone

40sec

Ans batao

A 1

B 8

C 4

D 5

Q Match the following

List-1	
A	Phone
B	Book
C	Memories
D	Heat

List_2

P- Matter → A B _ _

Q- Non-matter → C D _ _

CLASSIFICATION MATTER

1. Mixture
2. pure substance

Matter

Mixture

If more than one type of Molecules present in matter

Ex→ Air → (N_2, O_2, CO_2, Ar, etc

Ex→ Common salt sol^n → (H_2O + NaCl)

Pure substance

→ Matter form by only one type of atom or molecule

Ex→ H_2 gas

Ex→ Na(s)

Ex→ H_2O (pure water → Sirf H_2O molecule → Chemistry)

Ex → sugar sol^{n}.

Ex → Tea (Tea + sucrose + etc)

Ex → milk

Ex →

Q Which of the following particles are the example of the mixture

20sec

A Air

B Common salt in water solution

C Maggi

(maggi + H_2O + etc)

D All

Q Which of the following particles are the example of the pure subscenes

20sec

1 molecule
1 atom

A CO_2

B H_2 gas

C Na(s)

D All

Q Find out the ratio of example of mixture and purs substance in given example

Air, Cold drink, Tea, Na(s), He(g), P_4, sugar solution

m m m x x x m

30sec

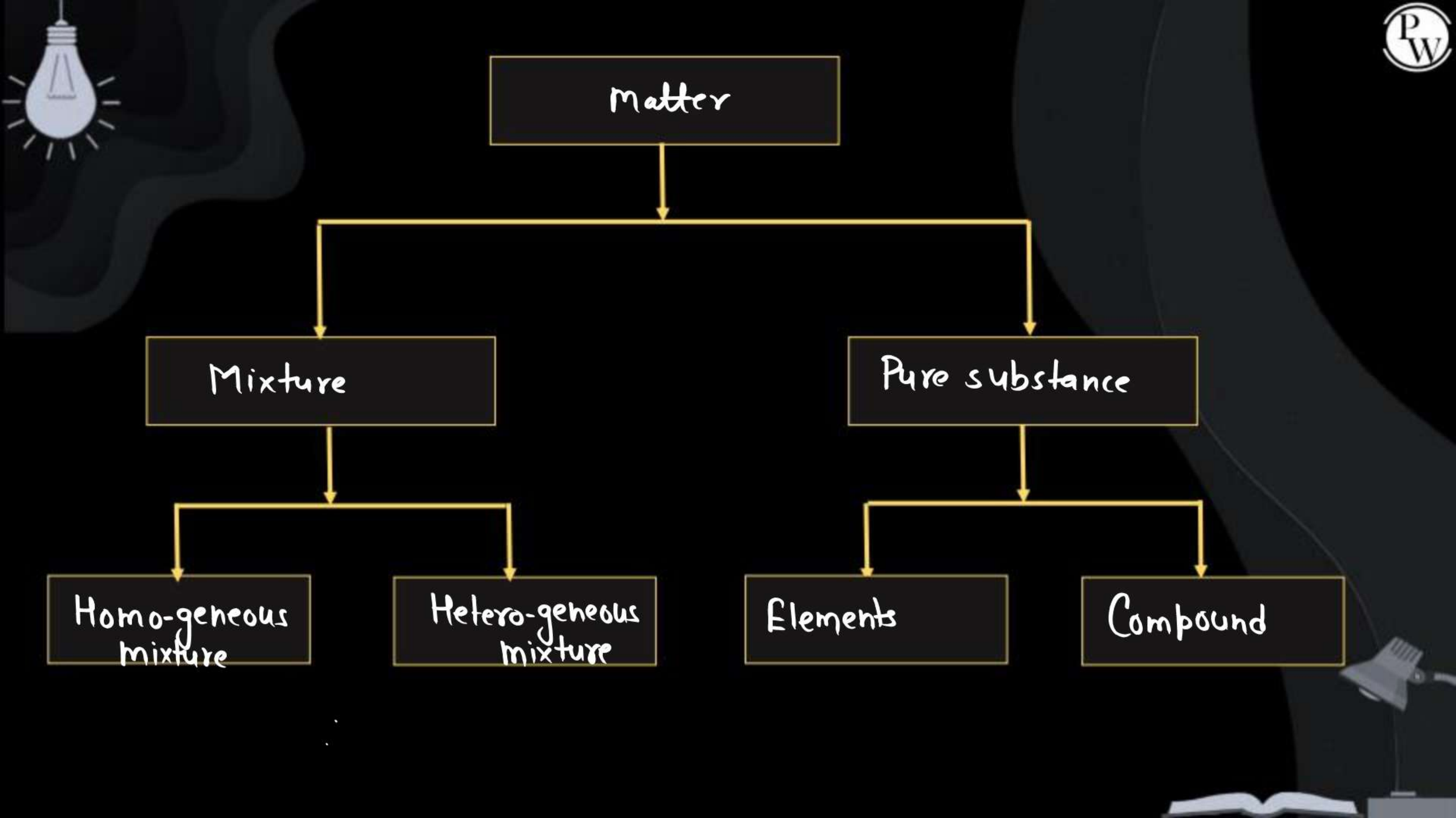
A $\frac{4}{3}$

B $\frac{3}{4}$

C $\frac{1}{2}$

D $\frac{3}{2}$

$\frac{\text{Mixture}}{\text{pure Subs.}} = \frac{4}{3}$


Matter
Mixture
Pure substance
Homo-geneous mixture
Hetero-geneous mixture
Elements
Compound

Elements

→ only one type of atom present in pure substance (matter)

→ H_2 → (H-H)

→ O_3 → (O-O-O)

→ Na(s) (Na-Na-Na···)

→ P_4 (P-P-P-P····)

→ He gas (He-He-He)

Compound

→ pure substance form by more than one type of different atom

Ex→ CO_2 (C+2O)

Ex→ H_2O (2H+O)

Ex→ $C_6H_{12}O_6$ (6C+12H+6O)

Q Which of the following particles are the example of the element?

A P_4 (P-P-P-P) →

B Air → mixture

C H_2O → (comp.

D CO_2 → (comp.)

pure substance → P_4, CO_2

(P-P-P-P-) (C+2O)

Element Compound

Homogeneous

→ different molecule distributed uniformally in solution

Ex→ sugar solution

Ex→ Air

Hetero-geneous

→ does not form uniformally distributed solution

Ex→ oil in water

Ex→ petrol in water

Ex→ sand in water

Q Select Homogeneous Mixture in given example.

30sec

A Petrol in water

B Oil in water

C Sugar solution

D a, c both are correct

Q Select the correct example of elements.

Ans bataio 20sec

A Petrol in water ×

B Air ×

C CO_2 ×

D H_2O ×

(E) S_8

Q How many particles are the example of compound. H_2O, CO_2, Air, Sugar Solution, $Na(s)$, $H_2(g)$

✓ ✓ ✗ ✓

A 2

B 1

C 3

D 4

pure substance

- Elements (1-atom)
- Compound (2-atom)

Q Match the following

List-I	List-II
(a) Element → s	(p) Air
(b) Compound → r	(q) Sugar Solution
(c) Mixture → p, q	(r) H_2O
	(s) O_2 gas

Mains → Qsd
Future Question by S.D.

A ✓ (a – s), (b – r), (c – p, q)

B (a – r), (b – s), (c – p, q)

C (a – s, r), (b – r, q), (c – p)

D (a – s), (b – r, q), (c – p)


Thank
You