YAKEEN NEET 2.0

2026

Some Basic Concept of Chemistry

MPQ Solution - 02 | **Physical Chemistry**

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Magarmach Practice Questions (MPQ)

Question

Which of the following statements about elements is incorrect?

A. All elements are made up of atoms

B. Elements can be broken down into simpler substances by chemical means

C. Elements may exist as atoms or molecules

D. Each element is represented by a unique symbol

Question

Which of the following statements about a compound is incorrect?

(NCERT Exemplar)

A. A molecule of a compound has atoms of different elements CO_2

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

$2Na(s) + Cl_2(g) \rightarrow 2NaCl(s)$

D. The ratio of atoms of different elements in a compound is fixed

CO_2

Question

Assertion: The number of elements is limited but the number of compounds is unlimited.

Reason: Two or more elements combine to form a compound.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct and R is not the correct explanation of A.

C. A is correct but R is incorrect

D. A is incorrect but R is correct

Question

According to ancient Indian texts, what is 'Paras'?

A. A golden dye

B. Philosopher's stone

C. Elixir of life

D. An alchemy book

Question

When two or more elements combine chemically with one another ____ is formed?

A Element

B Mixture

C Fluid

D Compound

Question

The concept of indivisible particles or atoms in India was proposed by:

A Nagarjuna

B Acharya Kanda

C Varāhamihira

D Rasayana Rishi

Question

Which of the following represents a compound?

A O_2

B H_2

C NaCl

D He

Question

Which of the following is an element?

A. Water H_2O

B. Carbon C ✓

C. Ammonia NH_3

D. Glucose $C_6H_{12}O_6$

Question

Which of the following is not a characteristic of mixtures?

Salt + water → Salt water

A. Components retain their individual properties

B. Can be separated by physical methods

C. Have a fixed boiling point

D. May show variable composition

Question

He NaCl

Which property is common to both elements and compounds?

A ✗ Can be separated by physical means

B ✓ Represented by a chemical formula

C ✗ Composed of two or more substances

D Can exist as homogeneous or heterogeneous mixtures

Question

Which of the following is not a pure substance?

A Oxygen $O_2(g)$

B Water $H_2O(g)$

C Milk → mix. Fat + water

D Sodium chloride Na^+Cl^-

Question

Assertion: The properties of a compound are same as those of its constituents.
Reason: A compound is always made up of the same elements combined together in a fixed ratio by mass.

(A) Both A and R are correct and R is the correct explanation of A.

(B) Both A and R are correct and R is not the correct explanation of A.

(C) A is correct but R is incorrect

(D) A is incorrect but R is correct

Question

Assertion: Solids have definite volume and shape.

Reason: In solids, the constituent particles are very close to each other and there is not much freedom of movement.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true and reason is not the correct explanation of assertion.

C. If assertion is true but reason is false

D. If both assertion and reason are false.

Question

Which one of the following pairs have both are present a compound and mixture

A NH_3 and salt solution

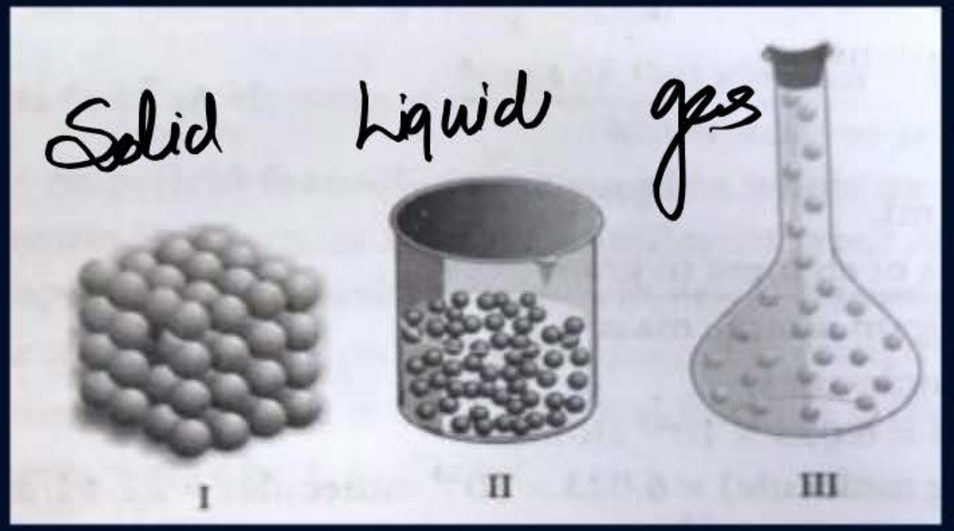
B Lemon juice and Liquid gum

C Ice cream and NaCl

D Gun powder and plaster of paris.

Question

Choose the correct statement about I, II and III.



A. I and II have definite volume but III does not have this property

B. I, II and III are interconvertible by changing the conditions of temperature and pressure

C. In the particles of I, freedom of movement is large

D. Both (A) and (B)

Question

Which one of the following statements is correct?

A. Two or more than two atoms of the elements combine and form compound.

B. The atoms retain their own property when form a compound.

C. Each substance of a mixture loses its original property.

D. Each substance of a mixture can be separated by physical or chemical methods.

Question

$20 \times 1.67 \times 10^{-24}$ g

If mass of one atom is 3.32×10^{-23} g, then calculate number of nucleons (neutrons and protons) present in 2 atoms of the element:

(A) 40

(B) 20

(C) 10

(D) $40\ N_A$

mass of 1 atom $= 3.32 \times 10^{-23}$ g

G.A.M $= 3.32 \times 10^{-23} \times 6.022 \times 10^{23}$ g

G.A.M $\simeq 20$ g

A.A.M $\simeq 20$ a.m.u.

R.A.M $\simeq 20$

1 atom has nucleons $= 20$

2 atoms has nucleons $= 2 \times 20$

$= 40$

Question

Assertion: Brass is a homogeneous mixture.
Reason: Brass is an alloy of copper and zinc.

A. Both A and R are correct and R is the correct explanation of A.

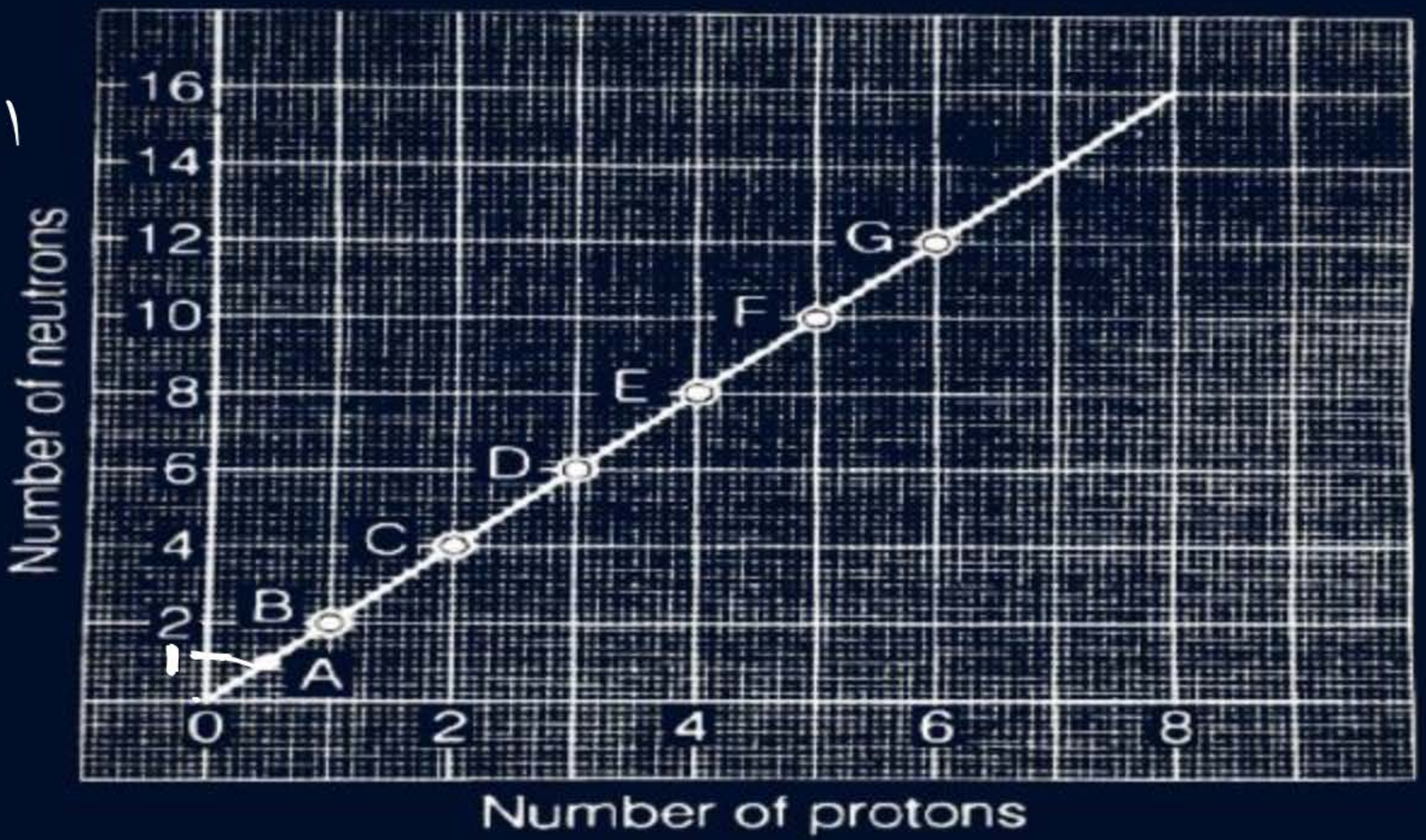
B. Both A and R are correct and R is not the correct explanation of A.

C. A is correct but R is incorrect

D. A is incorrect but R is correct

Question

In the graph, number of protons are plotted vs number of neutrons for the element A ~~and~~ to G and H (hydrogen). Maximum number of neutrons are present in one formula unit of:



(A) DH_4E $6\times1+0\times4+8\times1=14$

(B) A_2E $2\times1+8\times1=10$

(C) GE $12\times1+8\times1=20$

(D) DE_2 $6\times1+8\times2=22$

Question

Classify each of the following as an element, a compound or a mixture.

(a) Water C

(b) iron E Fe

(c) ice-cream M

(d) sugar $C_{12}H_{22}O_{11}$ C

(e) toothpaste M

(f) silicon dioxide C SiO_2

(g) sulfur E S_8

(h) cement M

(i) Air M

(j) magnesium oxide C

THANK YOU