COMPOUNDS AND MIXTURES
SOLUTIONS
TEACHING TASK
JEE MAINS LEVEL QUESTIONS

1. Which of the following statements about molecules and compounds is true?
a) All compounds are molecules. **b) All molecules are compounds.**
c) Some molecules are compounds. **d) Some compounds are not molecules.**

Answer: A

Solution: A compound is a molecule that contains at least two different elements. All compounds are molecules, but not all molecules are compounds (e.g., O_2 is a molecule but not a compound)

2. Which of the following is a compound, not a mixture?
a) Air **b) Saltwater** **c) Neon gas** **d) Salad**

Answer: None

Solution:Neon gas (Ne) is a pure element, not a mixture. The others (air, saltwater, salad) are mixtures.

3. The ratio of hydrogen and oxygen in water by weight is
A)1:2 **B)3:1** **C)1:8** **D)4:1**

Answer: C

Solution:The mass ratio is based on atomic weights: H_2O = (2×1) : (1×16) = 2:16 = 1:8.

4. In the chemical formula H_2O, what does the subscript "2" represent?
a) The number of oxygen atoms **b) The number of hydrogen atoms**
c) The charge on the oxygen atom **d) The charge on the hydrogen atom**

Answer: B

Solution:Subscripts indicate atom counts in a molecule.

5. What is the primary characteristic of a compound?
a) It can be separated by physical means.
b) It is composed of two or more elements chemically bonded.
c) It is always a pure element.
d) It exists in gaseous form at room temperature.

Answer: B

Solution:Compounds are formed by chemical bonds and cannot be separated physically.

6. In a compound, what is the role of electrons?
a) To determine the name of the compound.
b) To determine the physical state of the compound.
c) To form chemical bonds between atoms.
d) To determine the color of the compound.

Answer:C
Solution:Electrons are involved in bonding (e.g., ionic/covalent bonds).

7. In the compound $C_6H_{12}O_6$, how many atoms of oxygen are there?
a) 6 b) 12 c) 18 d) 24
Answer:A
Solution: The subscript "6" after O indicates 6 oxygen atoms.

8. What is the main difference between a mixture and a compound?
a) Mixtures are always homogeneous, compounds are not.
b) Compounds are always heterogeneous, mixtures are not.
c) Mixtures can be separated into their original components by physical means, compounds cannot.
d) Compounds can be separated into their original components by physical means, mixtures cannot.
Answer:C
Solution: Compounds require chemical reactions to separate.

9. What happens to the properties of substances in a mixture?
a) They combine to form new properties. b) They remain unchanged.
c) They disappear. d) They average out.
Answer:B
Solution: Mixtures retain the properties of their individual components.

10. What is the primary difference between a homogeneous mixture and a heterogeneous mixture?
a) Homogeneous mixtures have larger particles.
b) Heterogeneous mixtures have a uniform composition.
c) Homogeneous mixtures have a uniform composition.
d) Heterogeneous mixtures are always transparent.
Answer:C
Solution: Homogeneous mixtures (e.g., saltwater) are uniform; heterogeneous mixtures (e.g., salad) are not.

11. Which of the following represents a Mixture?
A)Ammonia B)Marble C)Gun powder D)Hydrogen chloride
Answer:C
Solution:Gunpowder is a mixture of potassium nitrate, charcoal, and sulfur.

12. ..... is a mixture of carbon, sulphur and nitre.
A) Gun-powder B)Brass C)Air D)Soil

Answer:A
Solution: Gun-powder is a mixture of carbon, sulphur and nitre.

13. When two substances A and B are powdered together in a pestle and mortar, a substance C with average properties is formed, it is
A)Mixture B)Compound C)Element D)None of these
Answer:A
Solution:Physical mixing (without chemical reaction) forms a mixture.

14. Why can't a mixture be represented by a chemical formula?
A)It is not made up of atoms. B)It is not chemically combined.
C)It becomes a new substance. D) It can not be identified.
Answer:B
Solution: Mixtures lack fixed ratios or chemical bonds, so no formula applies.

JEE ADVANCED LEVEL QUESTIONS

MULTIPLE CORRECT ANSWER TYPE

1. Which of the following statements about compounds is incorrect?
a) Compounds can only be formed by metals.
b) Compounds can be separated into elements by physical means.
c) Compounds have properties that are different from the elements that compose them.
d) Compounds are always in the gaseous state.
Answer:A,B,D
Solution:a)Incorrect: Compounds can form from metals + nonmetals (e.g., NaCl) or nonmetals only (e.g., CO_2).

b) Incorrect: Compounds require chemical methods (e.g., electrolysis) to separate.

d) Incorrect: Compounds exist in all states (e.g., H_2O is liquid, NaCl is solid).

2. Which one of the following statements about compounds is incorrect?
A) The properties of a compound are the same as the properties of the elements of which it is made up.
B) The elements in a compound are always present in the same ratio.
C) At least one of the elements in a mixture must be a gas.
D) It is easy to separate a compound into the elements that it is made from
Answer:A,C,D
Solution:A) Incorrect: Compounds have new properties (e.g., NaCl is edible; Na metal explodes in water).
C) Incorrect: Mixtures can be solid-solid (e.g., alloys), liquid-liquid (e.g., vinegar), etc.
D)Incorrect: Breaking compounds requires chemical reactions (not easy physical methods).

3. Choose the correct statement(s):

A)Gun-powder is mixture of carbon, sulphur and nitre.

B)Soft drinks are homogenous in nature.

C)Alloys form a homogenous mixture. **D)Water is a mixture.**

Answer:A,B,C

Solution:A)Correct:Gun-powder is mixture of carbon, sulphur and nitre**.**

B) True: They appear uniform (though technically solutions with dissolved CO_2).

C) Alloys form homogeneous mixtures.
True: E.g., brass (Cu + Zn) is uniform at the atomic level.

D) False: Pure water (H_2O) is a compound.

4. Among the following, Compounds are :

A)S_8 **B)O_2** **C)H_2O** **D)CO_2**

Answer:C,D

Solution:H_2O (water) and CO_2 (carbon dioxide) are compounds (chemically bonded elements).

REASON AND ASSERTION TYPE

A) Both Assertion and Reason are true, and Reason is the correct explanation for Assertion.

B) Both Assertion and Reason are true, but Reason is NOT the correct expla nation for Assertion.

C) Assertion is true, but Reason is false.

D) Assertion is false, but Reason is true.

5. Assertion: Elements in compounds are chemically bonded, whereas elements in mixtures are physically mixed.

Reason: Chemical bonding in compounds involves the sharing or transfer of electrons, leading to a more intimate connection between the elements compared to physical mixing in mixtures.

Answer:A

Solution:Assertion correctly distinguishes compounds (chemical bonds) from mixtures (physical mixing).

Reason explains why chemical bonding (electron sharing/transfer) creates a stronger connection than physical mixing.

6. Assertion: Water (H_2O) is a compound, not a mixture.

Reason: Water is a chemical compound composed of two different elements, hydrogen and oxygen, in a fixed ratio (2:1). Its properties are distinct from those of its individual elements.

Answer:A

Solution:Assertion correctly identifies water as a compound.

Reason justifies this by stating its fixed composition and distinct properties (e.g., liquid water vs. gaseous H_2 and O_2).

7. Assertion: Compounds can be represented by chemical formulas.

Reason: Chemical formulas provide a concise and standardized way of representing the types and numbers of atoms in a compound, aiding in the understanding of its composition.

Answer:A

Solution:Assertion is true (e.g., H_2O for water).

Reason explains the purpose of chemical formulas (e.g., H_2O shows 2 H atoms and 1 O atom).

8. Assertion: The properties of components in a mixture can change.

Reason: The individual components of a mixture will not undergo chemical changes while being part of the mixture.

Answer:D

Solution:Assertion is false: Components in a mixture retain their original properties (e.g., salt in water still tastes salty).

Reason is true: No chemical changes occur in mixtures (only physical mixing).

9. Assertion: A homogeneous mixture has a uniform composition throughout.

Reason: In a homogeneous mixture, the particles are evenly distributed, resulting in a consistent appearance.

Answer:A

Solution: Assertion defines homogeneous mixtures (e.g., saltwater).

Reason explains why they appear uniform (even particle distribution).

STATEMENT TYPE:

A) Statement-I, is True, Statement - II is True; Statement - II is a correct explanation for Statement-I

B) Statement - I is True, Statement is True; Statement -II is NOT a correct explanation for Statement - I

C) Statement - I is True, Statement - II , is False

D) Statement - I is False, Statement - II is True

10.Statement-I: One molecule of water (H_2O) has two atoms of hydrogen and one atom of oxygen.
Statement-II: The chemical formula of a compound shows the type and number of atoms bonded together.
Answer:A
Solution:Statement-I is factually correct about water's composition.

Statement-II explains how chemical formulas (like H_2O) convey atomic composition, directly supporting Statement-I.

11. Statement-I: Salt dissolved in water forms a homogeneous mixture.
Statement-II: In a homogeneous mixture, the components are evenly distributed and not visibly separate.
Answer:A
Solution: Statement-I correctly identifies saltwater as homogeneous.

Statement-II defines homogeneous mixtures, explaining why saltwater fits this category.

12. Statement-I: Dry ice (solid CO_2) changes directly into gas without becoming liquid.
Statement-II: Sublimation occurs when a solid turns into a gas without passing through the liquid state.
Answer:A
Solution:Statement-I describes the sublimation of dry ice.

Statement-II defines sublimation, directly explaining Statement-I.

13.Statement-I: Rusting of iron is a chemical change.
Statement-II: In a chemical change, new substances with different properties are formed.
Answer:A
Solution:Statement-I is correct (rusting forms iron oxide, a new substance).

Statement-II explains the nature of chemical changes, validating Statement-I.

COMPREHENSION TYPE:

COMPREHENSION-I:

A compounds is a pure substance made up of two or more elements chemically combined with one another in a fixed proportion by mass.

14. What is a compound?

a) A pure substance made of only one type of atom.

b) A mixture of two or more elements.

c) A substance formed by the chemical combination of two or more elements.

d) A solution of water and salt.

Answer: C

Solution: A compound is defined by:

Chemical bonding between different elements (e.g., H_2O, CO_2).

Fixed proportion by mass (e.g., water is always 2:1 hydrogen to oxygen by atoms).

15. Which of the following is NOT a characteristic of compounds?

A. They can be separated by physical means.

B. They have a fixed composition.

C. They are formed by the combination of elements.

D. They often have properties different from the elements they are composed of.

Answer: A

Solution:Compounds cannot be separated physically (e.g., you can't filter or distill water into H_2 and O_2). Chemical reactions (like electrolysis) are required.

COMPREHENSION-II:

Mixtures are combinations of two or more substances that are physically combined, not chemically bonded. One of the essential characteristics of mixtures is that each component retains its own properties. There are two main types of mixtures: homogeneous and heterogeneous. In homogeneous mixtures, the components are uniformly distributed, making it difficult to distinguish between them. On the other hand, heterogeneous mixtures have visibly different components. Separating mixtures can be done through various methods such as filtration, distillation, and evaporation.

16. What is the main difference between mixtures and compounds?

A) Mixtures have chemically bonded components, while compounds have physically combined components.

B) Mixtures have physically combined components, while compounds have chemically bonded components.

C) Mixtures and compounds have the same characteristics.

D) Mixtures and compounds cannot be differentiated.

Answer:B

Solution: Mixtures: Components are physically mixed (e.g., saltwater, air) and can be separated by physical methods (filtration, distillation).

Compounds: Components are chemically bonded (e.g., H_2O, CO_2) and require chemical reactions to separate.

17. Which type of mixture has visibly different components?

A) Homogeneous B) Pure substance C) Heterogeneous D) Compound

Answer:C

Solution:Heterogeneous mixtures have non-uniform composition (e.g., salad, sand + iron filings).

Homogeneous mixtures (e.g., saltwater) appear uniform.

18. What is a characteristic of homogeneous mixtures?

A) Components are visibly different.

B) Components are uniformly distributed.

C) Components can be separated by filtration.

D) Components are chemically bonded.

Answer: B

Solution:Homogeneous mixtures (e.g., sugar dissolved in water) have even distribution at the molecular level.

INTEGER TYPE

19. The number of oxygen atoms present in one molecule of carbon dioxide (CO_2) is _____.

Answer: 2

Solution: The subscript "2" in CO_2 indicates two oxygen atoms bonded to one carbon atom.

20.The number of hydrogen atoms present in one molecule of glucose ($C_6H_{12}O_6$) is _____.

Answer: 12

Solution:The subscript "12" in $C_6H_{12}O_6$ indicates twelve hydrogen atoms in a glucose molecule.

MATRIX MATCH TYPE

21.COLUMN-I (Substance Name) COLUMN-II (Chemical Formula)

A) Oxygen gas **i) NaCl**

B) Table salt **ii) O_2**

C) Ammonia **iii) H_2SO_4**

D) Sulfuric acid **iv) NH_3**

Answer: A-ii,B-i,C-iv,D-iii

Solution:

A) Oxygen gas ii) O_2

B) Table salt i) NaCl

C) Ammonia iv) NH_3

D) Sulfuric acid iii) H_2SO_4

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

1. A mixture where particles are visibly distinct (e.g., sand + water) is called:
A) Homogeneous B) Heterogeneous C) Compound D) Element
Answer:B
Solution: Heterogeneous mixtures have visibly different components that are not uniformly distributed.

2. Which of these is an element?
A) Salt B) Oxygen C) Carbon dioxide D) Sugar
Answer:B
Solution:Oxygen (O_2) is a pure element. The others are compounds (salt = NaCl, carbon dioxide = CO_2, sugar = $C_6H_{12}O_6$).

3. A substance formed by chemically combining two or more elements is a:
A) Mixture B) Compound C) Solution D) Suspension
Answer:B
Solution:Compounds are chemically bonded substances with fixed ratios (e.g., H_2O).

4. Which of the following is a mixture?
A) Gold B) Air C) Water D) Iron
Answer:B
Solution:Air is a mixture of gases (N_2, O_2, CO_2, etc.). The others are pure substances (gold = Au, water = H_2O, iron = Fe).

5. The chemical formula of carbon monoxide is:
A) CO_2 B) CO C) C_2O D) CH_4
Answer:B
Solution:"Mono-" indicates one oxygen atom bonded to carbon.

6. How many oxygen atoms are in hydrogen peroxide (H_2O_2)?
A) 1 B) 2 C) 3 D) 0
Answer:B
Solution: The subscript "2" indicates two oxygen atoms.

7. Which state of matter has no fixed shape but fixed volume?
A) Solid B) Liquid C) Gas D) Plasma
Answer:B
Solution: Liquids take the shape of their container but maintain a constant volume.

8. Dry ice (solid CO_2) changes directly to gas. This process is called:
A) Melting B) Freezing C) Sublimation D) Condensation
Answer:C
Solution:Sublimation bypasses the liquid phase (solid $\rightarrow$ gas).

9. Seawater is an example of a:
A) Homogeneous mixture B) Heterogeneous mixture C) Compound D) Element
Answer:A
Solution:Seawater is uniform at the molecular level (salt dissolved in water).

10. Which method separates salt from seawater?
A) Filtration B) Distillation C) Magnetism D) Decantation
Answer:B
Solution:Distillation evaporates water, leaving salt behind. Filtration would not work (salt is dissolved, not suspended).

JEE MAINS LEVEL QUESTIONS

1. Which of the following is a physical property of a compound?
a) Its ability to react with acids. b) Its boiling point.
c) Its reactivity with oxygen. d) Its ability to conduct electricity.
Answer:B
Solution:Physical properties include boiling point, melting point, color, density, etc., without changing the substance's chemical identity.

2. Which of the following is a characteristic of a compound?
a) It can be separated by physical means.
b) It consists of two or more elements chemically combined in fixed ratios.
c) It always exists in a gaseous state.
d) It cannot conduct electricity.
Answer:B
Solution:Compounds are formed by chemical bonding in fixed proportions.

3. Which statement about the melting and boiling points of compounds is correct?
a) Compounds always have higher melting and boiling points than elements.
b) Compounds always have lower melting and boiling points than elements.
c) The melting and boiling points of compounds vary widely and are not predictable.
d) The melting and boiling points of compounds are the same for all substances.
Answer:C
Solution:They depend on the type of bonding and structure, e.g., ionic compounds have high melting points, while covalent compounds vary widely

4. What happens to the physical and chemical properties of the elements that form a compound?
a) They remain unchanged. b) They average out.
c) They disappear. d) They combine to form new properties.
Answer:D
Solution:Elements lose their original properties when chemically bonded into a compound, e.g., sodium (metal) + chlorine (gas) $\rightarrow$ sodium chloride (salt).

5. What is the primary characteristic that distinguishes a compound from a mixture?

a) Color b) Composition c) State of matter d) Density

Answer:B

Solution:Compounds have fixed chemical composition, whereas mixtures can vary in proportion and are not chemically bonded.

6. What is the term for a mixture in which one substance is uniformly spread through out another substance?

a) Heterogeneous mixture b) Homogeneous mixture

c) Colloidal mixture d) Suspension

Answer:B

Solution:Homogeneous mixtures have a uniform composition

7. Which of the following is an example of a heterogeneous mixture?

a) Air b) Saltwater c) Sugar dissolved in water d) Granite rock

Answer:D

Solution:Heterogeneous mixtures have visibly distinct phases, like granite's mineral grains.

8. Water is a compound because

A)It is homogenous

B)The constituents of water cannot be seperated by physical means.

C)Hydrogen and Oxygen in water are in the ratio 1:8 by weight

D)All the above.

Answer: D

Solution:Water is homogeneous, its constituents (H_2 and O_2) can't be separated physically, and it has a fixed 1:8 H:O ratio by weight.

9. Potassium nitrate is also known as

A)Acid B)Nitre C)Water D)Soda ash.

Answer: B

Solution:Common name for potassium nitrate (KNO_3), used in fertilizers and gunpowder.

10. Which of the following statements about mixtures is false?

a) Mixtures can be separated by physical means.

b) Mixtures consist of two or more substances.

c) Mixtures always have a fixed composition.

d) The properties of each component in a mixture remain unchanged.

Answer: C

Solution:Mixtures can vary in composition, unlike compounds.

ADVANCED LEVEL QUESTIONS

MULTIPLE CORRECT ANSWER TYPE

1. Which of the following statements about compounds is true?

a) Compounds can be separated by physical means.

b) Compounds are always homogeneous.

c) Compounds can be separated into their original elements by physical means.

d) Compounds have variable compositions.

Answer:B

Solution:Compounds have uniform composition throughout

2.. Which of the following are mixtures?

A) Air B) Sugar ($C_{12}H_{22}O_{11}$) C) Bronze (Cu + Sn) D) Carbon dioxide (CO_2)

Answer:A,C

Solution: A) Air (Mixture of N_2, O_2, CO_2, etc.)

C) Bronze (Cu + Sn) (Alloy, a solid mixture of metals.)

3.Which of the following are common names for sodium chloride?

A) Table salt B) Baking soda C) Rock salt D) Washing soda

Answer:A,C

Solution:A) Table salt (Common name for NaCl.)

C) Rock salt (Natural crystalline form of NaCl.)

B) Baking soda (Sodium bicarbonate, $NaHCO_3$.)

D) Washing soda (Sodium carbonate, Na_2CO_3.)

4. Which of the following compounds contain four elements?

A) Glucose B) Ammonium sulfate C) Acetic acid D) Calcium carbonate

Answer:B

Solution: Ammonium sulfate ($(NH_4)_2SO_4$) (N, H, S, O)

REASON AND ASSERTION TYPE

A) Both Assertion and Reason are true, and Reason is the correct explanation for Assertion.

B) Both Assertion and Reason are true, but Reason is NOT the correct expla nation for Assertion.

C) Assertion is true, but Reason is false.

D) Assertion is false, but Reason is true.

5. Assertion: Compounds can have completely different properties from the elements they are composed of.

Reason: The arrangement and bonding of atoms in compounds give rise to new substances with distinct characteristics that may differ significantly from the properties of their constituent elements.

Answer:A

Solution: Example: Sodium (a reactive metal) + Chlorine (a toxic gas) $\rightarrow$ Sodium chloride (safe edible salt).

This change occurs due to bonding and new molecular structure, exactly as explained in the reason

6. Assertion: Carbon dioxide (CO_2) is a compound.

Reason: Carbon dioxide is formed by the combination of carbon and oxygen through covalent bonding, resulting in a compound with unique properties.

Answer:A

Solution:Assertion is true (CO_2 is a compound).

Reason is true and explains (CO_2 forms via covalent bonds, creating a new substance).

7. Assertion: Table salt (sodium chloride) is a compound.

Reason: Sodium chloride is formed by the combination of sodium (Na) and chlorine (Cl) through ionic bonding, resulting in a compound with distinct properties.

Answer:A

Solution: Assertion is true (NaCl is a compound).

Reason is true and explains (ionic bonding between Na^+ and Cl^- forms a new substance).

8. Assertion: A mixture can be separated into its individual components.

Reason: The components of a mixture retain their original properties and can be physically separated.

Answer:A

Solution:Assertion is true (e.g., saltwater can be separated by evaporation).

Reason explains why (mixtures are physically combined, not chemically bonded).

9. Assertion: Oil and water form a homogeneous mixture.

Reason: Oil and water do not mix completely, leading to the formation of separate layers in the mixture.

Answer:D

Solution:Assertion is false (oil + water = heterogeneous mixture, as they form layers).

Reason is true (they separate due to immiscibility).

COMPREHENSION TYPE:

COMPREHENSION-I:

A compounds is a pure substance made up of two or more elements chemically combined with one another in a fixed proportion by mass.

10. How do elements differ from compounds?

A. Elements are made up of two or more substances; compounds are pure.

B. Elements cannot be broken down into simpler substances; compounds can.

C. Elements are always liquids; compounds are always solids.

D. Elements and compounds are the same thing.

Answer:B

Solution:Elements are pure substances made of only one type of atom (e.g., oxygen O_2, gold Au) and cannot be broken down chemically.

Compounds are made of two or more elements chemically bonded (e.g., water H_2O) and can be broken down into simpler substances (elements) via chemical reactions.

11. What is the smallest unit of a compound?

a) Atom b) Molecule c) Element d) Particle

Answer:B

Solution:A molecule is the smallest unit of a compound that retains its chemical properties (e.g., one H_2O molecule is the smallest unit of water).

Atoms (a) are the smallest units of elements, not compounds.

Elements (c) and particles (d) are not specific terms for the smallest unit of a compound.

COMPREHENSION-II:

Mixtures are combinations of two or more substances that are not chemically bonded. Unlike pure substances, which have fixed properties, mixtures can vary in composition. There are two main types of mixtures: homogeneous and heterogeneous. Homogeneous mixtures have a uniform composition, where the components are evenly distributed and not easily distinguishable, like saltwater. Heterogeneous mixtures, on the other hand, have uneven distribution, and the components are visibly separate, like a salad with various ingredients.One characteristic of mixtures is that their physical properties, such as melting point and boiling point, can vary depending on the proportion of each component.

12. How do mixtures differ from pure substances?

a) Mixtures have fixed properties, while pure substances can vary in composition.

b) Mixtures are chemically bonded, while pure substances are not.

c) Mixtures can vary in composition, while pure substances have fixed properties.

d) Mixtures have uniform composition, while pure substances have visibly sepa rate components.

Answer:C

Solution:Mixtures are physical combinations of substances with variable composition (e.g., saltwater can have different salt concentrations).

Pure substances (elements or compounds) have fixed composition and properties (e.g., water H_2O always has 11% H and 89% O by mass).

13. How do homogeneous mixtures differ from heterogeneous mixtures?

A. Homogeneous mixtures have uneven compositions.

B. Homogeneous mixtures can be easily separated.

C. Homogeneous mixtures have uniform compositions.

D. Homogeneous mixtures retain the properties of each component.

Answer:C

Solution:Homogeneous mixtures (e.g., saltwater, air) have a uniform composition (components are evenly distributed and indistinguishable).

Heterogeneous mixtures (e.g., granite, oil-water) have non-uniform composition (visibly separate phases).

INTEGER TYPE

14. A pure substance is classified into _____ types.

Answer:2

Solution: Pure substances are classified into two types:

Elements (e.g., gold, oxygen).

Compounds (e.g., water, carbon dioxide).

15. How many parts by weight of carbon combine with 4 parts by weight of hydrogen to form methane (CH_4)?

Answer:12

Solution: The molecular formula of methane is CH4, meaning 1 carbon atom combines with 4 hydrogen atoms.

Atomic masses: Carbon (C) = 12 u, Hydrogen (H) = 1 u.

Weight ratio:

Carbon: 12 parts by weight.

Hydrogen: 4 × 1 = 4 parts by weight.

Thus, 12 parts carbon combine with 4 parts hydrogen.

16.How many total atoms are present in one molecule of glucose_____

Answer:24

Solution:Glucose has the molecular formula $C_6H_{12}O_6$.

Atom count:

Carbon (C): 6 atoms.

Hydrogen (H): 12 atoms.

Oxygen (O): 6 atoms.
Total atoms = 6 + 12 + 6 = 24.

MATRIX MATCH TYPE

17.COLUMN-I	**COLUMN-II**
A) Element	**i) Air**
B) Compound	**ii) Iron**
C) Homogeneous mixture	**iii) Saltwater (NaCl + H2O)**
D) Heterogeneous mixture	**iv) Salad**

Answer:A-ii,B-iii,C-i,D-iv

Solution:

A) Element	ii) Iron
B) Compound	iii) NaCl
C) Homogeneous mixture	i) Air
D) Heterogeneous mixture	iv) Salad

KEY

				TEACHING TASK					
			JEE MAINS LEVEL QUESTIONS						
1	2	3	4	5	6	7	8	9	10
A	NONE	C	B	B	C	A	C	B	C
11	12	13	14						
C	A	A	B						
			JEE ADVANCED LEVEL QUESTIONS						
1	2	3	4	5	6	7	8	9	10
A,B,D	A,C,D	A,B,C	C,D	A	A	A	D	A	A
11	12	13	14	15	16	17	18	19	20
A	A	A	C	A	B	C	B	2	12
21-A-ii,B-i,C-iv,D-iii									
				LEARNERS TASK					
			CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)						
1	2	3	4	5	6	7	8	9	10
B	B	B	B	B	B	B	C	A	B
			JEE MAINS LEVEL QUESTIONS						
1	2	3	4	5	6	7	8	9	10
B	B	C	D	B	B	D	D	B	C
			ADVANCED LEVEL QUESTIONS						
1	2	3	4	5	6	7	8	9	10
B	A,C	A,C	B	A	A	A	A	D	B
11	12	13	14	15	16	17			
B	C	C	2	12	21	A-ii,B-iii,C-i,D-iv			

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