

VIVEK TUTORIALS

Chemistry
Practice Test
MODEL ANSWER
Max Marks: 60

Date : 07/Apr/2019

Grade: 8th (ICSE)
Elements Compound & Mixtures

Time: 1Hrs

Choose the correct alternative:

1. (d) Hg 1
2. (a) Zinc 1
3. (c) Carbon monoxide 1
4. (c) Ag₂S 1
5. (d) All the above 1

Fill in the blanks:

6. Dust in air is an example of Homogenous mixture. 1
7. The reactive element from the two monoatomic elements is silicon. 1
8. An example of a monoatomic molecule is helium. 1
9. graphite 1
10. ethyl xanthate 1

Name the following:

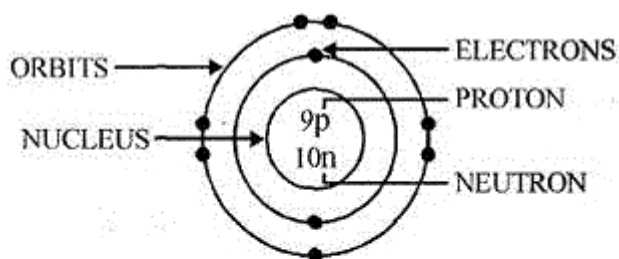
11. (i) Gold (Au) (ii) Platinum (Pt). 1
12. Aluminium (Al). 1
13. Copper and Silver. 1
14. Concentrated nitric acid (HNO₃). 1
15. (a) Gold (b) Platinum. 1

Answer the following in one or two sentences:

16. Since non-metals can gain electrons, therefore they act as good oxidising agents. 1
17. Non-metals are electronegative because they accept electrons and become negative ions. 1
18. Ca > Mg > Zn > Fe > Cu > Ag. 1
19. Metal. 1
20. $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$. 1

Attempt the following:

21. Components of a mixture can be separated by physical methods because particles remain separate without chemical reaction between them. 2
22. Centrifugation is fast method to separate suspended (heavier) insoluble solid from lighter liquid by rotating the mixture fast. Heavier solid settles down at the bottom. 2
23. Brass and bronze are mixtures as the composition of elements is not fixed by mass and have no formula. Lead nitrate and copper sulphate are compounds as they have fixed ratio of elements by mass and have formula like Pb(NO₃)₂ and CuSO₄. 2
24. 'An atom is the basic unit of an element'. 2



An atom – of fluorine [At. No. 9]

$$Z = p = e$$

[atomic no.] [no. of protons] [no. of electrons]

25. (a) With a hammer, convert both the metal and non-metal in the form of plates or rods. Metals will readily form these since they are malleable. Non-metals being brittle till break when struck with hammer. Now construct a cell in both the cases using these plates as electrodes and switch on the current. If the bulb glows, this means those electrodes are of metals.
- (b) (i) Metals are malleable while non-metals are not.
- (ii) Metals are good conductor of electricity while non-metals are not.

Attempt the following:

26. Element	(i) Element is a pure substance. (ii) It is the basic unit of matter and cannot be broken down into two or more simpler substances by any means. (iii) It is mainly classified into metals, non-metals, metalloids and noble gases.
Compound	(i) Element is a pure substance. (ii) It is formed by combination of two or more elements. (iii) For a particular compound, the elements are combined together in a fixed ratio. (iv) It can be broken down into its elements by chemical reaction only.
Mixture	(i) Mixture is an impure substance. (ii) It is formed by combination of two or more elements, compounds or both. (iii) The substances are mechanically mixed together in any ratio.

27. Mixture: A mixture is made up of two or more substances elements or compounds or both mechanically mixed together in any proportion. A mixture retains the properties of its component elements or compounds.

Difference between homogenous & heterogeneous mixtures:

Homogeneous mixture	Heterogeneous mixture
(i) Their constituents are uniformly mixed.	(i) Their constituents are not uniformly mixed.
(ii) The properties and composition are same throughout the mixture.	(ii) The properties and composition vary throughout the mixture.
Example: A cup of coffee, mixture of water, sugar, milk, & coffee	Example: A mixture of oil and water.

Brass is homogenous mixture because the ratio of the components is same throughout and its components cannot be distinguished from each other.

Whereas in case of heterogeneous mixture of iron and sulphur, composition is not uniform throughout the mixture and the constituents can be separated easily by a magnet, the particles can be distinguished from each other.

(a) Example of homogeneous mixture: Two liquids which form homogenous mixture are Alcohol and water.

(b) Example of heterogeneous mixture: Two liquids which form heterogeneous mixture are oil and water.

28.

Mixture	Method of separation
(a) Two solid mixtures one of which directly changes into vapour on heating.	The method used to separate this mixture is sublimation. Sublimable solid changes into vapours and condenses on cooling. If the mixture is heated, sublimable solid will be separated leaving behind non-sublimable solid.
(b) Two solid mixtures one of which dissolves in a particular solvent and other does not	The method used to separate this mixture is solvent extraction: Soluble solid dissolves in solvent leaving behind the other insoluble solid. The dissolved solid is recovered by evaporation.
(c) A solid-liquid mixture containing an insoluble solid in the liquid component	The method used to separate this mixture is filtration: The insoluble solid can be obtained on the filter paper as residue.

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Mixture	Method of separation
(a) A liquid-gas mixture containing a gas dissolved in a liquid component.	The method used to separate this mixture is boiling the mixture: Solubility of gas decreases with increase in temperature, so gas escapes when mixture is boiled and collected separately.
(b) A gas-gas mixture containing two gases with different densities.	The method used to separate this mixture is diffusion: The lighter gas diffuses more rapidly on passing it through the rough porous partition whereas heavier gas diffuses less rapidly on passing through porous partition.
(c) A mixture of different solid constituents in a liquid constituent.	The method used to separate this mixture is chromatography.

Attempt the following:

30. The following table is showing the first 20 element of periodic table grouped as metal, non-metals, metalloids, and noble-gases with their names and symbols.

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Name of elements	Symbol
Metal	
Lithium	Li
Beryllium	Be
Sodium	Na
Magnesium	Mg
Aluminium	Al
Potassium	K
Calcium	Ca
Non-metal	
Hydrogen	H
Carbon	C
Nitrogen	N
Oxygen	O
Metalloids	
Boron	B
Silicon	Si
Noble gas	
Helium	He
Neon	Ne
Argon	Ar

31. **Compound:** When two or more elements chemically combine in a fixed ratio by mass, the obtained product is known as a compound. When the elements combine, the individual properties of the elements are lost and the newly formed compound has its new set properties.

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In the compound carbon dioxide [CO₂], one carbon [C] atom is combined with two oxygen [O₂] atoms. Two different types of atom combined to form a new compound. A carbon dioxide can be broken down into carbon and oxygen atoms by chemical reaction only.

Properties of compounds should be different from those of their elements. Carbon [C] is combustible and Oxygen [O] is supporter of combustion - but carbon dioxide is non-combustible and non-supporter

of combustion.

Attempt the following:

32. 1. No, they can be separated by separating funnel. 5
2. Separation of liquids by fractional distillation takes place by using the principle of the "Difference in their boiling points."
3. Water having boiling point 100°C will remain in flask 'X'.
4. Alcohol having lower boiling point 78°C , so that will evaporate first and condense in the conical flask — receiver 'Y'.
5. The upper part of the 'Fractionating column is cooler, so as the hot vapours rise up in the column, they get cooled (condense) and trickle back into the distillation flask 'X'.
33. 1. (j) 5
2. (c)
3. (g)
4. (d)
5. (h)
6. (i)
7. (b)
8. (e)
9. (a)
10. (f)