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RRB Science MCQs Quiz 7

Directions: Study the following questions carefully and choose the right answer:

1. Compounds of carbon having double or triple bonds between their carbon atoms are called

- A. Saturated compounds
- B. Unsaturated compounds
- C. Reactive compounds
- D. None of the above

2. The bonds that carbon forms with most other elements are very strong making the compounds so formed exceptionally stable. The most appropriate reason for the same is-?

- A. Due to the small size of the carbon atom.
- B. Due to its ability to form long chains.
- C. Due to the huge size of the carbon atom
- D. None of the above

3. Compounds with identical molecular formula but different structures are called

- A. Tetravalent compounds
- B. Structural isomers
- C. Covalent compounds
- D. None of the above

4. Saturated hydrocarbons are called

- A. Alkynes
- B. Alkenes
- C. Alkanes
- D. All of the above

5. Which of the following statements is false about heteroatoms?

- A. It is formed by the replacement of one or more hydrogen atoms by another element.
- B. It gives some specific properties to the compound so formed.
- C. Chlorine and Oxygen are examples of heteroatoms.

D. All of the above

6. Substances that cause a reaction to occur or proceed at a different rate without the reaction itself being affected are called

A. Catalysts

B. Hydrocarbons

C. Oxidising agents

D. Substitutes

7. This substance is commonly known as alcohol and is also used in medicines such as tincture iodine, cough syrups, and many tonics. This is

A. Propanol

B. Butane

C. Ethanol

D. Methanol

8. Which of the following statements are true?

A. Denatured alcohol is when dyes are added to colour the alcohol blue to avoid misuse.

B. Intake of methanol in very small quantities can cause death.

C. Ethanol is an important industrial solvent.

D. All of the above

9. Ethanoic acid is commonly called

A. Acetic acid

B. Sulphuric acid

C. Sodium Ethoxide

D. Ethyne

10. This substance is sweet-smelling and is used in making perfumes and flavouring agents. It is called-?

A. Sodium ethanoate

B. Lime water

C. Hydrogencarbonates

D. Ester

Correct Answers:

1	2	3	4	5	6	7	8	9	10
B	A	B	C	D	A	C	D	A	D

Explanations:**1.**

Compounds of carbon, which are linked by only single bonds between the carbon atoms are called saturated compounds. Compounds of carbon having double or triple bonds between their carbon atoms are called unsaturated compounds.

Hence, option B is correct.

2.

The biggest reason for this is due to the size of the carbon atom being small. This enables the nucleus to hold on to the shared pairs of electrons strongly. Elements having larger atoms have bonds that are much weaker.

Hence, option A is correct.

3.

Structures with identical molecular formula but different structures are called structural isomers. Eg: Butane.

Hence, option B is correct.

4.

Carbon compounds which contain just carbon and hydrogen are called hydrocarbons. Among these, the saturated hydrocarbons are called alkanes. The unsaturated hydrocarbons which contain one or more double bonds are called alkenes. Those containing one or more triple bonds are called alkynes.

Hence, option C is correct.

5.

Heteroatoms are formed when, in a hydrocarbon chain, one or more hydrogens are replaced by an element. In such compounds, the element replacing hydrogen is referred to as a heteroatom. These heteroatoms confer specific properties to the compound, regardless of the length and nature of the carbon chain and hence are called functional groups. The functional group formed by Chlorine is Halo- while that formed by oxygen are many- alcohol, aldehyde, ketone etc.

Hence, option D is correct.

6.

Catalysts are substances that cause a reaction to occur or proceed at a different rate without the reaction itself being affected. Eg: hydrogenation of vegetable oils using a nickel catalyst.

Hence, option A is correct.

7.

Ethanol is commonly called alcohol and is the active ingredient of all alcoholic drinks. Also, it is a good solvent and is used in medicines such as tincture iodine, cough syrups, and many tonics. It is also soluble in water in all proportions.

Hence, option C is correct.

8.

I. To prevent misuse of ethanol (alcohol) produced for industrial use, it is made unfit for drinking by adding substances like dyes, methanol etc. When dyes are added, the alcohol is called denatured alcohol. Hence, I is correct.

II. Methanol is oxidised to methanal in the liver. Methanal reacts rapidly with the components of cells. It causes the protoplasm to get coagulated, in much the same way an egg is coagulated by cooking. Methanol also affects the optic nerve, causing blindness. It is fatal even when taken in small quantities.

III. This is true.

Hence, option D is correct.

9.

Ethanoic acid is commonly called acetic acid and belongs to a group of acids called carboxylic acids. 5-8% solution of acetic acid in water is called vinegar and is used widely as a preservative in pickles. The melting point of pure ethanoic acid is 290 K and hence it often freezes during winter in cold climates. This gave rise to its name glacial acetic acid.

Hence, option A is correct.

10

The correct answer is Ester. An ester is a sweet-smelling substance, used in making perfumes and flavouring agents.

Hence, option D is correct.



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