

Chemistry - 12th Class Chemistry Full Book Short Questions Preparation

Q1. How formaldehyde is prepared on industrial scale?

Ans 1: Formaldehyde is manufactured by passing a mixture of methanol vaporous and air over iron oxide molybdenum oxide or silver catalyst at 500 C.

Q2. Octane number of gasoline is improved by reforming.

Ans 1: The octane number of gasoline is improved by a process called reforming. It involves the conversion of straight hydrocarbons into branched chain by heating in the absence of oxygen and in the presence of catalyst.

Q3. Discuss photochemical smog and give its properties?

Ans 1: Photochemical smog consists of higher concentration of oxidants like ozone and is also termed as oxidizing smog. It is a yellowish brownish grey haze which is formed in the presence of water droplets and chemical reactions of the pollutants in the air. It has unpleasant odor because of its gaseous components.

Q4. Melting points of Group VIIA elements increases down the group. Why?

Ans 1: For elements of group VIIA, which exist in the form of molecules, the melting and boiling points increase down the group. This is because large molecules exert stronger force of attraction due to their higher polarizabilities.

Q5. What is triglycerides?

Ans 1: A triester of glycerol is called a triglycerides or glyceride.

Q6. Briefly describe the simple protein?

Ans 1: These protein on hydrolysis yield only amino acid or their derivatives, For example albumins, globulins, legumin collagen etc, globulins are insoluble in water but soluble in dilute salt solution, They are found in animals, is also found in muscles and also in plants,

Q7. What is effect of temperature on semiconductor?

Ans 1: The electrical conductivity of semiconductor depends upon their temperature. When a metal is heated, its resistance increases, when a semiconductor is heated its resistance decreases and vice versa.

Q8. How melting and boiling points varied in a period?

Ans 1: Across the short periods, the melting and boiling points of elements increase with the number of valence electrons up to group IVA and then decrease up to the noble gases. The melting points of group IA elements are low because each atom in them provides only one electron to form a bond with another atom. Melting points of group IIA elements are considerably higher than those of group IA elements because each atom in them provides two bonding electrons. An important change occurs when we move from group IVA to group VA, VIA, VIIA as the lighter elements of these groups exist as small covalent molecules rather than as three-dimensional lattices.

Q9. What are the conditions for the formation of smog?

Ans 1:

1. There must be sufficient NO, hydrocarbons and volatile organic compounds emitted by the vehicular traffic.
2. Sunlight, so that some of the chemical reactions may occur at a rapid rate.
3. The movement of air mass must be little so that reactions are not disturbed.

Q10. Give four uses of acetic acid?

Ans 1: Acetic acid is used:

1. as a coagulant for latex in the rubber industry.
2. in the manufacturing of plastic rayon and silk.
3. in medicine as a local irritant.
4. in the manufacturing of pickles.

Q11. What happens when borax is heated with NH_4Cl ?

Ans 1: When borax is heated with ammonium chloride, boron nitride is produced,

Q12. Define ecosystem.

Ans 1: Ecosystem is a similar unit of biosphere which consists of a community of organisms and their zone and depends on physical factors such as soil, water and air.

Q13. Why does lithium carbonate decompose on heating while other alkali metal carbonates remain unaffected?

Ans 1: Lithium has a low electropositive character, thus its carbonate and nitrate are not so stable and therefore decompose giving lithium oxide. Carbonates of other alkali metals do not decompose.

Q14. How does HNO_3 act as an oxidizing agent?

Ans 1: It acts as a strong oxidizing agent due to the ease with which it is decomposed.

$$2\text{HNO}_3(\text{aq}) \longrightarrow \text{H}_2\text{O} + 2\text{NO}_2(\text{g}) + [\text{O}](\text{g})$$

Q15. What is Halothane? Write its formula.

Ans 1: Definition: Chemical compounds of halogens with ethylene are called halothane.

Formula: Fluorine is used to form Teflon($-\text{CF}_2-\text{CF}_2-$)_n.

Q16. How polystyrene is prepared?

Ans 1: Polystyrene is used in the manufacturing of floor containers cosmetic ,bottles toys and packing material etc.

Q17. What do you know about screening operation for pulp and paper industry.

Ans 1: In most pulp and paper process some types of screening operation is required to remove the over sized troublesome and unwanted particle, Magnetic separator removed iron pieces like nail and bolts .

Q18. Define Hydrogenation,

Ans 1: Hydrogenation is a process in which molecule of hydrogen added to an alkene in the presence of a catalyst and at moderate pressure (1-5 atm) to give a saturated compound.

Q19. What is Tin Plating ?

Ans 1: The process of tin plating consists of dipping the clean sheet of iron in a bath of molten tin and then passing it through hot pair of roller.

Q20. How is coal produced from the remains trees?

Ans 1: Coal in nature was formed from the remains of the trees buried inside the earth crust some 500 million years ago, Due to the bacterial and chemical pressure inside the earth crust, peat got transferred into crust this process is called carbonization of coal, Coal is important solid fuel and becomes a source of organic compound.

Natural Gas: It is an important mean of energy especially for countries like Pakistan which are deficient in the production of mineral oil and coal. It is mixture of low boiling hydrocarbons.

Petroleum: Mineral oil is called petroleum when it is refined from it is thought to have been formed by slow chemical and biochemical decomposition of the remains of the organic matter found between the sedimentary rocks.
