

GK & Science One
Liners' PDF

Chemistry (Miscellaneous Q/A)



Chemistry (Miscellaneous Q/A Part-2)

1. Charcoal can be made at home by burning

- A. wood in absence of air
- B. coal in absence of air
- C. coal in an insufficient supply of air
- D. wood in an insufficient supply of air

Ans. A

Sol. Charcoal is a biomass which is made by burning wood in the absence of air.

2. Which gas is present in both the natural gas and the biogas?

- A. Methane
- B. Hydrogen
- C. Carbon monoxide
- D. Butane

Ans. A

Sol. • Methane is the main component found in both natural gas and biogas.

• Natural gas is composed of methane, ethane, propane, butane, and pentane while biogas is composed of methane, carbon dioxide and hydrogen sulphide.

3. What is the source of sulfuric acid?

- A. Fragrance oil
- B. Fruit juices
- C. Citric fruits
- D. Harakasis

Ans. D

Sol. Harakasis

•Harakasis comes in use for making explosive materials, color making, medicines etc

•Its chemical name is Ferric sulphate and formula is $[Fe_2(SO_4)]$

•The most common use of sulfuric acid is for fertilizer manufacture.

4. Fabric made from _____ does not get wrinkled easily.

- A. Cotton
- B. Flax
- C. Silk
- D. Polyester

Ans. D

Sol.

• Fabric made from **polyester** does not get wrinkled easily.

• Polyester is a synthetic chemical compound i.e polymers which contain ester functional group.

• Polyesters most commonly are prepared from a condensation reaction. Depending on the chemical structure, polyester can be a thermoplastic or thermoset.

5. Which one of the following is commonly used for pulp bleaching in the paper industry?

- A. Mild Sulphuric acid
- B. Glucose isomerase
- C. Hydrogen peroxide
- D. Iodine and water

Ans. C

Sol.

• **Hydrogen peroxide** is used in pulp bleaching in the paper industry.

• It's a colourless liquid and is slightly more viscous than water.

• It is used as an oxidizer, bleaching agent and disinfectant.

6. Fermentation is a type of _____ process.

- A. Aerobic Respiration
- B. Anaerobic Respiration
- C. Exothermic Reaction
- D. Transpiration

Ans. B

Sol.

• Fermentation is a metabolic process that produces chemical changes in organic substrates through the action of enzymes.

• Fermentation normally occurs in an anaerobic environment. In the presence of O_2 , NADH and pyruvate are used to generate ATP in respiration.

7. Physical property is not same but chemical property is same, it is called-

- A. Allotropic
- B. Compound
- C. Alloy
- D. None of the above

Ans. A

Sol. • Carbon has two allotropes, Diamond and graphite, pure forms of the same element that differ in crystalline structure.



- Allotropy property of some chemical elements to exist in two or more different forms, in the same physical state.
- Allotropes are different structural modifications of an element.
- For example, the allotropes of carbon include diamond (the carbon atoms are bonded together in a tetrahedral lattice arrangement)

8. The property of metals by which they can be beaten into thin sheets is called _____.

- A. Ductility B. Malleability
C. Viscosity D. Tensile strength

Ans. B

Sol.

- The property of metals by which they can be beaten into thin sheets is called malleability.
- Ductility is the property of metals by which they can be drawn into wires.
- Viscosity is a state of being thick, sticky, and semi-fluid in consistency, due to internal friction.

9. The salt concentration (measured as salinity in parts per thousand), is _____ % in sea.

- A. 10-20 B. 30-35
C. 40-50 D. 60-70

Ans. B

Sol. The salt concentration (measured as salinity in parts per thousand), is 30-35 % in sea. Salinity is the measurement of salt present in the water. Salt with some amount of water is produced when acid and base react. Seawater pH is typically limited to a range between 7.5 and 8.4. The most saline sea in the world is the red sea.

10. Which of the following is a characteristic of an exothermic reaction?

- A. Release of heat
B. Absorption of heat
C. Doesn't involve any change in temperature
D. None of the option is correct

Ans. A

Sol.

- An exothermic reaction is a chemical reaction that releases energy by light or heat causing the temperature of surroundings to rise.
- It takes place when the energy used to break the bonds in the reactants is less than the energy given out when bonds are formed in the products. Example: combustion.

11. Which chemical compound is used to prevent wooden furniture from termites?

- A. Zinc chloride
B. Silver iodide
C. Potassium carbonate
D. Chromium trioxide

Ans. A

Sol.

- **Wooden furniture** is coated with **zinc chloride (ZnCl₂)** to prevent **termites**.
- Zinc chloride has numerous applications in different industries, including **health care, pharmaceuticals, and paper manufacturing** industry. It is used in **dry cell** batteries as an **electrolyte**. It is a powerful **emulsion breaker**. It separates oil from water.

12. Which of the following bonds are weakest in nature?

- A. Single bond B. Double bond
C. Triple bond D. Hydrogen bond

Ans. D

Sol.

- Hydrogen bonds are **weakest** in nature as they are intermolecular electrostatic bonds that occur when a Hydrogen is bonded to a very electronegative atom like oxygen, Nitrogen where there is no electron exchange leading to a weak bonding between molecules.
- **Hydrogen bonds** are classified as weak **bonds** because they are easily and rapidly formed and broken under normal biological conditions.



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13. Process of gaining electrons is known as _____.

- A. oxidation
- B. reduction
- C. radiation
- D. both oxidation and reduction

Ans. B

Sol. Redox is a chemical reaction in which the oxidation states of atoms changes. It involves the transfer of electrons between elements.

- Oxidation is the chemical reaction in which there is a loss of electrons or an increase in oxidation state by a molecule, atom, or ion.
- Reduction is a chemical reaction where there is the gain of electrons or a decrease in oxidation state by a molecule, atom, or ion.

14. Which of the following metals (shown by its symbol) is generally used for making filaments of bulbs?

- A. Fe
- B. An
- C. Aq
- D. W

Ans. D

Sol. Tungsten is a chemical element with symbol W and atomic number 74.

Tungsten is a rare metal found naturally on Earth. Its important ores include wolframite and scheelite. Tungsten is used in incandescent light bulb filaments, X-ray tubes, electrodes in TIG welding, super alloys, and radiation shielding. Tungsten compounds are also often used as industrial catalysts.

15. Which amongst the following is not a Cation?

- A. Aluminium ion
- B. Copper ion
- C. Sulphate ion
- D. Zinc ion

Ans. C

Sol. Sulphate ion is not a cation. Cation is a positively charged ion but sulphate ion is a negatively charged ion as it gains electrons and forms a covalent bond with oxygen. Hence sulphate ion is an anion.

16. Which of the following is not a component of Smog?

- A. Volatile organic compounds
- B. Nitrogen Oxide

- C. Sulphur dioxide
- D. Chlorine oxide

Ans. D

Sol. Chlorine oxide is not a component of Smog. Smog an air pollutant is composed mainly of tropospheric ozone and primary particulate matter such as pollen and dust along with other particulate matter such as sulphur oxides, volatile organic compounds, nitrogen oxides and ammonia gas.

17. Which is known as carboic acid?

- A. Phenol
- B. Ethanol
- C. Acetic acid
- D. Oxalic acid

Ans. A

Sol. Phenol, also known as carboic acid, is an aromatic organic compound. It is mildly acidic and requires careful handling due to its propensity to cause chemical burns. It is generally produced from petroleum.

18. Removal of carbon particles from air involves the principle of

- A. Precipitation
- B. Filtration
- C. Electrophoresis
- D. Sedimentation

Ans. C

Sol. Electrophoresis is a technique used in laboratories in order to separate macromolecules based on size. There is a movement of charged particles under the influence of an electric field.

19. $\text{Na}_2\text{B}_2\text{O}_4(\text{OH})_4$ is the chemical formula of which of the following?

- A. Benzoyl salicylic acid
- B. Sodium Perborate
- C. Anthranilic acid
- D. Chloro benzoic acid

Ans. B

Sol. **Sodium perborate (PBS)** is a white, odorless, water-soluble chemical compound with the chemical formula **$\text{Na}_2\text{B}_2\text{O}_4(\text{OH})_4$** .

It is usually encountered as the **tetrahydrate**, but **monohydrate**, **$\text{NaBO}_3 \cdot \text{H}_2\text{O}$** and **trihydrates** are well known **$\text{NaBO}_3 \cdot 3\text{H}_2\text{O}$** .

20. The absolute zero is a temperature at which _____



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- A. molecular motion in a gas would cease
- B. water freezes
- C. all gases become liquid
- D. all gases become solid

Ans. A
Sol.

- Absolute Zero is a temperature where the molecular motion in gas would cease.
- Absolute zero is the point at which the fundamental particles of nature have minimal vibrational motion, retaining only quantum mechanical, zero-point energy-induced particle motion.

21. Iodex, a pain relief balm, has the smell of _____.

- A. Methyl salicylate
- B. Ethyl salicylate
- C. Propyl salicylate
- D. Butyl salicylate

Ans. A

Sol. Methyl salicylate (oil of wintergreen or wintergreen oil) is an organic ester naturally produced by many species of plants, particularly wintergreens. It is also synthetically produced, used as a fragrance.

22. What is the common name of CaOCl_2 ?

- A. Baking Powder
- B. Baking Soda
- C. Bleaching Powder
- D. Washing Soda

Ans. C
Sol.

● **Calcium Hydrochlorite $\text{Ca}(\text{OCl})_2$** which is commonly known as 'Bleaching Powder' is used as a bleaching agent for water treatment.

● This compound is relatively stable and has higher available chlorine than Sodium Hypochlorite.

● It is white solid which is not highly soluble in water and is more preferably used in soft to medium-hard water.

23. Which base is present in milk of magnesia?

- A. Magnesium hydroxide
- B. Ammonium hydroxide
- C. Sodium hydroxide
- D. Calcium hydroxide

Ans. A

Sol. It's the Magnesium hydroxide which is present in Milk of Magnesia. It is a laxative that is used to treat constipation, by drawing water into the intestines. Moreover it is also used as an antacid that works by lowering the amount of acid in the stomach.

24. Metals react with sodium hydroxide to produce _____.

- A. oxygen gas
- B. sodium
- C. water
- D. hydrogen gas

Ans. D

Sol. Reaction of Base with Metals: When alkali (base) reacts with metal, it produces salt and hydrogen gas. Example: Sodium hydroxide gives hydrogen gas and sodium zincate when reacts with zinc metal. Sodium aluminate and hydrogen gas are formed when sodium hydroxide reacts with aluminium metal.

25. Bauxite is used as raw material by which industry?

- A. Aluminium
- B. Iron
- C. Steel
- D. Gold

Ans. A

Sol.

● Bauxite is an ore of aluminium which contains only 30–54% alumina.

● It is used by **aluminium industries** as raw material.

● Australia is the world's biggest bauxite producer.

26. Aluminum salt commonly used to stop bleeding is

- A. Aluminum nitrate
- B. Aluminum sulphate
- C. Aluminum Chloride
- D. Potash alum

Ans. D

Sol. Aluminum salt commonly used to stop bleeding is Potash Alum. It is also known as aluminum potassium sulphate. It is commonly used in purification of drinking water. It is naturally transpiring mineral salt.

Hence option D is the right answer.



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27. Chemical formula for sulphuric acid is

- A. H_2SO_4 B. H_2SO_3
C. H_3SO_3 D. H_3SO_4

Ans. B
Sol.

- Sulphurous acid is a weak inorganic acid and considered an aqueous solution of sulfur dioxide in water.

- The chemical formula for sulphuric acid is H_2SO_4 .

28. Minamata disease is a nervous disorder caused by eating fish, polluted with _____.

- A. Iron B. Mercury
C. Lead D. Nickel

Ans. B
Sol.

- Minamata disease is a nervous disorder caused by eating fish, polluted with Mercury.

- The disease has symptoms like numbness in the hands and feet, general muscle weakness, loss of peripheral vision and damage to hearing and speech. It can be treated with surgical intervention.

29. Which acid is used in batteries?

- A. Picric acid B. Sulphuric acid
C. Hydrobromic acid D. Perchloric acid

Ans. B

Sol. **Sulfuric acid** is used in batteries. Each cell of a **lead storage** battery consists of alternate plates of **lead (cathode)** and lead coated with **lead dioxide (anode)** immersed in an electrolyte of the **sulfuric acid** solution.

30. Which among the following is not a property of bases?

- A. Bases are bitter in taste
B. The pH of a basic solution at standard conditions is greater than nine.
C. Aqueous solutions or molten bases dissociate in ions and conduct electricity.
D. All of the above

Ans. B

Sol. The **pH** of a basic solution at standard conditions is greater than **seven**.

General properties of bases include:

- Concentrated or strong bases are caustic on organic matter and react violently with acidic substances.

- Aqueous solutions or molten bases **dissociate in ions** and conduct **electricity**.

- Reactions with indicators: bases turn red litmus paper **blue**, phenolphthalein **pink**, keep bromothymol **blue** in its natural colour of **blue**, and turn methyl **orange yellow**.

- The pH of a basic solution at standard conditions is greater than **seven**.

- Bases are **bitter** in taste.



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