

# Most Important Questions(Chemistry)

## Class 10 CBSE Board 2021-22(Term II)

- Name three elements discovered after Mendeléeve gave his Periodic Table. [Ask Filo](#)
- Classify the following elements into groups of triads  
 $Cl, Ca, Ba, Sr, K, Li, Br, I, Na$ . [Ask Filo](#)
- What is observed when bromine water is added to ethene? [Ask Filo](#)
- A test tube contains a brown liquid in it. The colour of the liquid remains the same when methane is passed through it but it disappears when ethene is passed. Suggest the name of the substance giving brown colour to the liquid. [Ask Filo](#)
- $A, B$  and  $C$  are elements of Döbereiner's triad. if the atomic mass of  $A$  is 7 and that of  $C$  is 23, what will be the atomic mass of  $B$ . [Ask Filo](#)
- Which gas will be evolved if sodium bicarbonate is added to a solution of tartaric acid? [Ask Filo](#)
- Elements  $A, B, C$  and  $D$  have atomic numbers 1, 8, 11 and 19 respectively. Choose the odd element and give reasons for your answer. [Ask Filo](#)
- Magnesium oxide is  $MgO$ , magnesium hydroxide is  $Mg(OH)_2$  and magnesium sulphate is  $MgSO_4$ . What would be the formulae of barium oxide, barium hydroxide and barium sulphate if barium belongs to the same group, as magnesium? [Ask Filo](#)
- Some of the elements and their atomic numbers are given in the table. [Ask Filo](#)
  - How many valence electrons are there in the element  $R$  ?
  - What is the valency of  $P$  ?
  - Write the chemical formula of the compound formed by combining the elements  $P$  and  $Q$ .
  - Out of the two elements  $P$  and  $S$ , which one is larger in size?

Element	$P$	$Q$	$R$	$S$
Atomic number	3	17	13	11

- Acetic acid reacts with ethyl alcohol in the presence of conc.  $H_2SO_4$  producing a sweet smelling compound. For the reaction (a) name the main product, (b) write the chemical equation. [Ask Filo](#)
- Write chemical test to distinguish between ethanol and ethanoic acid. [Ask Filo](#)
- Give reasons for the following: [Ask Filo](#)
  - Ethanol is used in the preparation of tincture iodine.
  - Ethanoic acid is used in the preparation of pickles.
- Write the structural formula of two isomers of  $n$ -pentane  $C_5H_{12}$ \* [Ask Filo](#)
- An element  $A$  reacts with oxygen to form  $A_2O$ . [Ask Filo](#)

- (a) State the number of electrons in the outermost orbit of A.  
 (b) To which group of the periodic table does A belong?  
 (c) State whether A is a metal or a non-metal.

15. Four elements *P*, *Q*, *R* and *S* have atomic numbers 12, 13, 14, and 15 respectively. Answer the following questions giving reasons:

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- (a) What is the valency of *Q*?  
 (b) Classify these elements as metals and non-metals.  
 (c) Which of these elements will form the most basic oxide?

16. Give two examples of covalent compounds which you have studied. State any four properties in which covalent compounds differ from ionic compounds.

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17. Explain why?

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- (a) Li and Na are considered as active metals,  
 (b) Atomic size of Mg is less than that of Na, and  
 (c) Fluorine is more reactive than chlorine.

18. An organic compound *X* is an essential constituent of wine and beer. *X* is responsible for intoxication caused by these drinks. Oxidation of *X* yields an organic acid *Y* which is present in vinegar. Name the compounds *X* and *Y* and write their structural formulae.

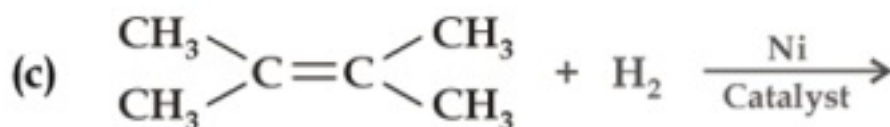
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19. What happens when ethanol reacts with (a) sodium (b) alkaline potassium permanganate solution? Write the necessary chemical equations for the reactions involved in the above cases.

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20. Complete the following reactions and name the main products formed in each case:

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21. Given below are some elements of the Modern Periodic Table:

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${}_4\text{Be}$ ,  ${}_9\text{F}$ ,  ${}_{14}\text{Si}$ ,  ${}_{19}\text{K}$ ,  ${}_{20}\text{Ca}$ .

- (a) Select the element that has one electron in the outermost shell and write its electronic configuration.  
 (b) Select two elements that belong to the same group. Give reasons for your answer.  
 (c) Select two elements that belong to the same period. Which one of the two has bigger atomic size?

22. Consider the following elements:

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${}_{20}\text{A}$ ,  ${}_8\text{B}$ ,  ${}_{18}\text{C}$ ,  ${}_{16}\text{D}$ ,  ${}_4\text{E}$ ,  ${}_2\text{F}$ .

Answer the following giving reasons.

Which of the above elements you would expect to be

- (a) very stable.  
 (b) in group 2 of the periodic table.  
 (c) in group 16 of the periodic table.  
 (d) What type of bond will be formed when the element A reacts with B? Explain.

23. (a) Give reasons for the following:

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- (i) Unsaturated hydrocarbons show addition reaction.
  - (ii) Conversion of ethanol to ethanoic acid is an oxidation reaction.
  - (iii) Alcohol supplied for industrial purpose is mixed with copper sulphate.
- (b) Write chemical equation to represent the preparation of ethane from ethanol.
- (c) State the role of concentrated sulphuric acid in an esterification reaction.

24. (a) What is a homologous series of compounds? List any two characteristics of a homologous series.

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- (b) (i) What would be observed on adding a 5% solution of alkaline potassium permanganate solution drop by drop to some warm alcohol taken in a test tube?
- (ii) Write the name of the compound formed during the chemical reaction.
- (c) How would you distinguish experimentally between an alcohol and a carboxylic acid on the basis of a chemical property?

25. (a) Name first three members of group 2 and 16.

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- (b) Name any four metalloids.
- (c) Which chemical properties were stressed by Mendeléeiev while formulating his Periodic Table?
- (d) Write the following elements in order of increasing atomic numbers  
Magnesium, Lithium, Aluminium.
- (e) Give the electronic configuration of the following elements:  
Carbon, Phosphorus, Chlorine.

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