



## D.A.V. PUBLIC SCHOOL, NEW PANVEL

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2025-2026

Subject: Chemistry

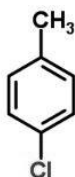
Std- XII / Sec.:

Worksheet :1

1. Which of the following is a primary halide?

- (a) Isopropyl iodide
- (b) Secondary butyl iodide
- (c) Tertiary butyl iodide
- (d) Neohexyl chloride

2. Which is the correct IUPAC name for



- (a) Methylchlorobenzene
- (b) Toluene
- (c) 1-Chloro-4-methylbenzene
- (d) 1-Methyl-4-chlorobenzene

3. Aryl halides are less reactive towards nucleophilic substitution reactions as compared to alkyl halides due to

- (a) formation of a less stable carbonium ion in aryl halides
- (b) resonance stabilization in aryl halides
- (c) presence of double bonds in alkyl halides
- (d) inductive effect in aryl halides

4. **Assertion** : Alkylbenzene is not prepared by Friedel-Crafts alkylation of benzene.

**Reason** : Alkyl halides are less reactive than acyl halides.

5. Which will have a higher boiling point 1 – chloropentane or 2- chloro – 2 methylbutane? Why?

6. How do alkyl, allylic and vinylic halides differ?

7. Write a chemical reaction in which the iodide ion replaces the diazonium group in a diazonium salt.

8. P-Dichlorobenzene has higher melting point and solubility than those of o- and m- isomers. Discuss.

9. What are ambident nucleophiles? Explain with an example.

10. The main difference between C – X bond of a haloalkane and a haloarene is

- (a) C – X bond in haloalkanes is shorter than haloarenes
- (b) In haloalkanes the C attached to halogen in C – X bond is  $sp^3$  hybridised while in haloarenes it is  $sp^2$  hybridised.
- (c) C – X bond in haloalkanes acquires a double bond character due to higher electronegativity of X than haloarenes.
- (d) haloalkanes are less reactive than haloarenes due to difficulty in C – X cleavage in haloalkanes.



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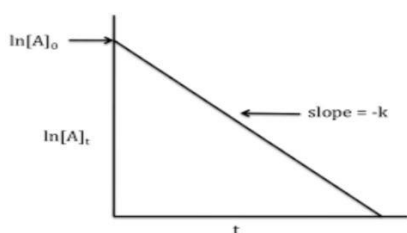
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**Std- XII / Sec.:**

**Worksheet :2**

1. A first order reaction has a rate constant  $1.15 \times 10^{-3} \text{s}^{-1}$ . Time taken for 5 g of this reactant to reduce to 3 g is  
(a) 444 s (b) 400 s (c) 528 s (d) 669 s
2. For the reaction  $A + 2B \rightarrow C$ , rate is given by  $R = [A] [B]^2$  then the order of the reaction is  
(a) 3 (b) 6 (c) 5 (d) 7
3. Order of reaction is decided by  
(a) temperature  
(b) mechanism of reaction as well as relative concentration of reactants  
(c) molecularity  
(d) pressure
4. A plot is shown below between concentration and time  $t$ . Which of the given orders is indicated by the graph



- (a) Zero Order (b) Second Order  
(c) First Order (d) Fractional Order
5. The rate of decomposition of a substance A becomes eight times when its concentration is doubled. What is the order of this reaction?
6. The reaction  $A + B \rightarrow C$  has zero order. What is the rate equation?
7. For the reaction  $A \rightarrow B$ , the rate of reaction becomes twenty seven times when the concentration of A is increased three times. What is the order of the reaction?
8. When could order and molecularity of a reaction (i) be the same and (ii) be different?
9. Calculate the overall order of a reaction which has the rate expression  
(i)  $\text{Rate} = k [A]^{1/2} [B]^{3/2}$   
(ii)  $\text{Rate} = k [A]^{3/2} [B]^{-1}$
10. What is the effect of temperature on the rate constant of a reaction? How can this temperature effect on the rate constant be represented quantitatively?
11. A first order reaction has a rate constant  $1.15 \times 10^{-3} \text{S}^{-1}$ . How long will 5 g of this reactant take to reduce to 3 g?