

8/17/19

ROLL NUMBER				
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SET A



# INDIAN SCHOOL MUSCAT

## FIRST PERIODIC TEST-2023

### CHEMISTRY

CLASS: XII

Sub.Code: 043

Time Allotted: 50mts.

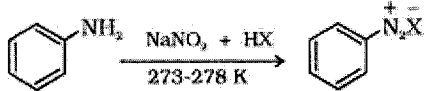
18.04.2023

Max .Marks: 20

**GENERAL INSTRUCTIONS: All questions are compulsory.**

**Mark for each question is indicated against the question.**

**Multiple choice questions:**

- Which of the following will convert toluene to p-chlorotoluene? 1  
a)  $\text{Cl}_2, \text{UV}$    b)  $\text{Cl}_2, \text{Fe}$  in dark   c)  $\text{HCl}, \text{ZnCl}_2$    d)  $\text{SOCl}_2$
- Which of the following is an allyl halide? 1  
a) 1-Bromobut-2-ene   b) 2-Bromobut-2-ene   c) 2-Bromo-2-methylbut-1-ene  
d) 2-Bromo-3-methylbut-1-ene
- How many monohalo derivative are possible for straight chain isomer of  $\text{C}_4\text{H}_{10}$ ? 1  
a) 2   b) 1   c) 3   d) 4
-  1

The above reaction is :

- Sandmeyer reaction   b) Finkelstein reaction   c) Diazotisation reaction   d) Swartz reaction
- Which shows the correct order of dipole moment? 1  
a)  $\text{CCl}_4 > \text{CH}_3\text{Cl}$    b)  $\text{CH}_2\text{Cl}_2 > \text{CH}_3\text{Cl}$    c)  $\text{CH}_2\text{Cl}_2 < \text{CCl}_4$    d)  $\text{CHCl}_3 < \text{CCl}_4$

In the following questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- A. Both Assertion and Reason are correct statements, and Reason is the correct explanation of the Assertion.  
B. Both Assertion and Reason are correct statements, but Reason is *not* the correct explanation of the Assertion.  
C. Assertion is correct, but Reason is incorrect  
D. Assertion is incorrect, but Reason is correct

6. Assertion: Alkyl halides are immiscible in water. 1

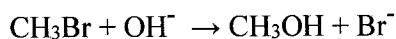
Reason: Alkyl halides are soluble in organic solvents.

7. Assertion: Para dihalo benzene have higher boiling point than its ortho- isomer. 1

Reason: Para dihalo benzene have greater symmetry and fits into crystal lattice.

Answer the following questions

8. Identify which among the following will show greater boiling point, giving reason for the same: n-butyl chloride or t-butyl chloride. 1  
9. Write the IUPAC name of the product obtained when 2-Bromopropene is treated with bromine in carbon tetrachloride. 1  
10. Draw structure of 1-Bromo-3,3-dimethyl-1-phenylbutane. 1  
11. Define ambident nucleophile with an example. 1  
12. A hydrocarbon 'A' ( $C_4H_8$ ) is added with HBr in accordance with Markonikov's rule to give compound 'B' which on hydrolysis with aqueous alkali forms tertiary alcohol 'C' ( $C_4H_{10}O$ ). Identify A and B. 2  
13. Illustrate a) Finkelstein reaction b) Swartz reaction 2  
14. Write the equations to show the major organic product in each of the following reactions- 2  
a) when benzene diazonium chloride is treated with potassium iodide.  
b) when propanol is treated with hydrochloric acid in presence of anhydrous zinc chloride.  
15. Identify and explain the mechanism for the following reaction: 3



End of question paper



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**GENERAL INSTRUCTIONS: All questions are compulsory.**

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**Multiple choice questions:**

1. Which of the following will convert toluene to p-chlorotoluene? 1  
 a)  $\text{Cl}_2, \text{UV}$    b)  $\text{Cl}_2, \text{Fe}$  in dark   c)  $\text{HCl}, \text{ZnCl}_2$    d)  $\text{SOCl}_2$
2. Which of the following is an alkyl halide? 1  
 a) 1-Bromobut-2-ene   b) 3-Bromobut-2-ene   c) 2-Bromo-2-methylbut-1-ene  
 d) 4-Bromo-3-methylbut-1-ene
3. How many monohalo derivative are possible for branched isomer of  $\text{C}_4\text{H}_{10}$ ? 1  
 a) 2   b) 1   c) 3   d) 4
4. 1  
 The above reaction is  
 a) Sandmeyer reaction   b) Diazotisation   c) Finkelstein reaction   d) Swartz reaction
5. Which shows the correct order of dipole moment? 1  
 a)  $\text{CCl}_4 > \text{CH}_3\text{Cl}$    b)  $\text{CH}_2\text{Cl}_2 > \text{CH}_3\text{Cl}$    c)  $\text{CH}_2\text{Cl}_2 < \text{CCl}_4$    d)  $\text{CHCl}_3 < \text{CCl}_4$

In the following questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- A. Both Assertion and Reason are correct statements, and Reason is the correct explanation of the Assertion.  
 B. Both Assertion and Reason are correct statements, but Reason is *not* the correct explanation of the Assertion.  
 C. Assertion is correct, but Reason is incorrect.  
 D. Assertion is incorrect, but Reason is correct.

6. Assertion: Aryl halides are soluble in organic solvents. 1

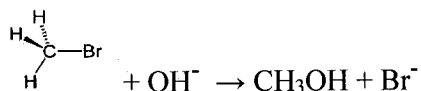
Reason: Organic solvents are non-polar in nature.

7. Assertion: t-butyl bromide has lower boiling point than n-butyl bromide. 1

Reason: t-butyl bromide has greater branching and lesser surface area.

Answer the following questions

8. Identify which among the following will show greater melting point, giving reason for the same: p-dihalobenzene or o-dihalobenzene. 1  
 9. Write the IUPAC name of the product obtained when 2-Bromopropene is treated with bromine in carbon tetrachloride. 1  
 10. Draw structure of 1-Bromo-3,3-dimethyl-1-phenylbutane 1  
 11. Define ambident nucleophile with an example. 1  
 12. A hydrocarbon 'A' ( $C_4H_8$ ) is added with HBr in accordance with Markonikov's rule to give compound 'B' which on hydrolysis with aqueous alkali forms tertiary alcohol 'C' ( $C_4H_{10}O$ ). Identify A and B. 2  
 13. Illustrate a) Finkelstein reaction b) Swartz reaction 2  
 14. Write the equations to show the major organic product in each of the following reactions- 2  
 a) when chloropropane is heated with aqueous potassium hydroxide.  
 b) when benzene diazonium chloride is treated with cuprous chloride .  
 15. Identify and explain the mechanism for the following reaction: 3



End of question paper



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**Multiple choice questions:**

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 a)  $\text{Cl}_2, \text{UV}$     b)  $\text{Cl}_2, \text{Fe}$  in dark    c)  $\text{HCl}, \text{ZnCl}_2$     d)  $\text{SOCl}_2$

2. Which of the following is not a vinyl halide? 1  
 a) 2-Bromobut-2-ene    b) 2-Bromobut-1-ene    c) 2-Bromo-2-methylbut-1-ene  
 d) 4-Bromo-3-methylbut-1-ene

3. How many monohalo derivatives are possible for the compound shown below when it undergoes reaction with chlorine in bright sunlight? 1



- a) 2    b) 1    c) 3    d) 4

4. 1

The above reaction is

- a) Sandmeyer reaction    b) Diazotisation    c) Finkelstein reaction    d) Swartz reaction

5. Which shows the correct order of dipole moment? 1  
 a)  $\text{CCl}_4 > \text{CH}_3\text{Cl}$     b)  $\text{CH}_2\text{Cl}_2 > \text{CH}_3\text{Cl}$     c)  $\text{CH}_2\text{Cl}_2 < \text{CCl}_4$     d)  $\text{CHCl}_3 < \text{CCl}_4$

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 B. Both Assertion and Reason are correct statements, but Reason is *not* the correct explanation of the Assertion.  
 C. Assertion is correct, but Reason is incorrect statement.  
 D. Assertion is incorrect, but Reason is correct statement

6. Assertion: Alkyl halides are soluble in organic solvents. 1

Reason: Organic solvents are non-polar in nature.

7. Assertion: t-butyl bromide has higher boiling point than n-butyl bromide. 1

Reason: t-butyl bromide has greater branching and greater surface area.

Answer the following questions

8. Identify which among the following will show greater melting point, giving reason for the same: p-dihalobenzene or o-dihalobenzene. 1

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12. A hydrocarbon 'A' ( $C_4H_8$ ) is added with HBr in accordance with Markonikov's rule to give compound 'B' which on hydrolysis with aqueous alkali forms tertiary alcohol 'C' ( $C_4H_{10}O$ ). Identify A and B. 2

13. Illustrate a) Finkelstein reaction b) Swartz reaction 2

14. Write the equations to show the major organic product in each of the following reactions- 2

a) when chloropropane is treated with alc.KCN.

b) when benzene diazonium chloride is treated with cuprous bromide .

15. Identify and explain the mechanism for the following reaction: 3

