ROLL NUMBER				

SET A

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

CHEMISTRY

CLASS: XII Sub. Code: 043 Time Allotted: 50mts.

18.04.2022 Max .Marks: 20

GENERAL INSTRUCTIONS:

- ***a. All questions are compulsory.***
- ***b. Mark for each question is indicated against it***

Following questions are multiple choice type carrying 1 mark each:

1. Ethyl benzene on free radical halogenation followed by treatment with Na in dry ether gives 1
   a) 1,2-diphenylbutane
   b) 1,4-diphenylbutane
   c) 2,3-diphenylbutane
   d) 1,3-diphenylbutane

2. Which one of the following compounds is the most reactive in S_N1 reaction? 1

   a) $C_6H_5C(CH_3)C_6H_5Br$
   b) $C_6H_5CH_2Br$
   c) $C_6H_5CH(C_6H_5)Br$
   d) $C_6H_5CH(CH_3)Br$

3. The chiral compound is : 1

   a) 3-chloropentane b) Propene c) 2-chloropropane d) 2-chlorobutane

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.** Assertion and reason both are correct statements and reason is correct explanation for assertion.
- **B.** Assertion and reason both are correct statements but reason is not correct explanation for assertion.
- **C.** Assertion is correct statement but reason is wrong statement.
- **D.** Assertion is wrong statement but reason is correct statement

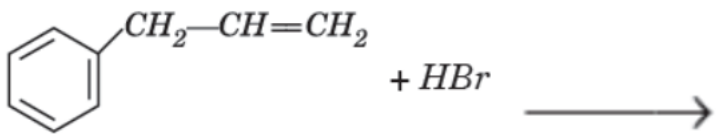
4. Assertion: S_N2 reaction is a bimolecular reaction 1

   Reason: Both alkyl halide and nucleophiles determine the rate of reaction.

5. Assertion: Boiling points of alkyl halides decrease in the order R-I > R-Br > R-Cl > R-F. 1

   Reason: Van der Waals forces decrease with increase in the size of halogen atom.

Predict the major product in the following

6.  1

7. $CH_3CH(Br)CH(CH_3)CH_3 \xrightarrow{\text{alc. KOH}}$ 1

Answer the following

8. Write the IUPAC name of $CH_3CH=C(Cl)CH_2CH(CH_3)_2$ 1

9. Draw the structure of 4-sec-Butyl-1-chloro-2-methylbenzene. 1

10. Convert But-1-ene to 1-fluorobutane. 1

11. Give a chemical tests to distinguish the following compounds: 1

    Chlorobenzene & Ethyl chloride.

12. Write equations for the following 2

    a) Friedel Crafts Alkylation of Chlorobenzene
    b) Finkelstein reaction

13. Explain why 2

    a) Grignard reagent is prepared and stored in anhydrous conditions
    b) Primary benzylic and allylic halides follow S_N1 mechanism

14. Explain the following 2

    a) Enantiomers
    b) Retention of configuration

15. An optically active compound having molecular formula $C_7H_{15}Br$ reacts with aq. NaOH to give a racemic mixture of products. Write the mechanism involved for the reaction. 3

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NAME OF THE EXAMINATION FIRST PERIODIC TEST	FIRST PERIODIC TEST	CLASS: XII
DATE OF EXAMINATION 18/04/22		SUBJECT: CHEMISTRY
TYPE	MARKING SCHEME	

SET	Q.NO	VALUE POINTS	MARK
A	1	C	1
	2	A	1
	3	D	1
	4	A	1
	5	C	1
	6	C6H5CH2CH(Br)CH3	1
	7	2-methylbut-2-ene	1
	8	3-chloro-5-methylhex-2-ene	1
	9	Correct structure of 4-sec-Butyl-1-chloro-2-methylbenzene	1
	10	HBr/peroxide followed by AgF/heat	1

	11	Ethyl chloride would give white ppt soluble in NH4OH on reaction with aq KOH followed by dil HNO3 &AgNO3. Chlorobenzene would not	1
	12	a) Friedel Crafts Alkylation b) Finkelstein reaction	1x2
	13	a) Grignard reagents are highly reactive and react with any source of proton to give hydrocarbons b) Benzylic &allylic carbo cations are resonance stabilized	1x2
	14	a) Enantiomers b) Retention	1x2
	15	Any tert alkyl halide Mechanism two steps	1 1+1