

ROLL NUMBER				
-------------	--	--	--	--

SET C



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. An alkyl halide forms Grignard reagent on treating with magnesium metal in dry ether solvent and the Grignard reagent on hydrolysis yields propane. What is the original alkyl halide? 1
 - a) Methyl iodide
 - b) Ethyl iodide
 - c) Ethyl bromide
 - d) Propyl bromide
2. The correct order of reactivity of the halides, 1
Ethyl chloride (I) , Iso-propyl chloride (II) , and benzyl chloride (III) in S_N1 reaction is
 - a) I > II > III b) III > II > I c) II > I > III d) I > III > II
3. Which of the following is a chiral compound? 1
 - a) Dichloromethane
 - b) 1-Chlorobutane
 - c) Propan-2-ol
 - d) 2,3,4-trimethylhexane

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: AgCN forms isocyanide when react with haloalkanes while KCN form alkyl cyanides. 1

Reason: KCN is ionic while AgCN is covalent in nature thus providing different products.

5. Assertion: Presence of a nitro group at ortho or para position increases the reactivity of haloarenes towards nucleophilic substitution. 1

Reason: Nitro group, being an electron withdrawing group increases the stability of the intermediate.

Predict the major product.

6.  1

7. $\text{CH}_3 - \text{CHBr} - \text{CH}_2 - \text{CH}_3 + \text{alc. KOH} \rightarrow$ 1

Answer the following

8. Write the IUPAC name of $(\text{CH}_3)_3\text{CCBr}=\text{CHC}_6\text{H}_5$ 1

9. Draw the structure of isopentyl bromide 1

10. Convert Propanol to 1-iodopropane. 1

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

Benzyl chloride & Chloroethene

12. Write equations for the following 2

- a) Wurtz –Fittig reaction
- b) Sandmeyer's reaction

13. Explain why 2

- a) Chlorine is ortho-para directing but deactivating towards electrophilic substitution.
- b) Para isomer of dihalobenzenes has high melting point as compared to ortho and meta isomers.

14. Explain the following 2

- a) Racemisation

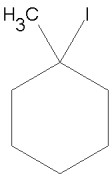
b) Ambident nucleophile

15. An optically active compound having molecular formula C_4H_9Br undergoes inversion of configuration when reacts with aqueous KOH. Identify the compound and write the mechanism involved for the reaction.

3

INDIAN SCHOOL MUSCAT

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

SET	Q.NO	VALUE POINTS	MARK
C	1	D	1
	2	B	1
	3	D	1
	4	A	1
	5	A	1
	6		1
	7	$\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$	1
	8	2-Bromo-3,3dimethyl-1-phenylbut-1-ene	1
	9	Isopentyl bromide structure	1
	10	$\text{SOCl}_2/\text{PCl}_5/\text{PCl}_3$ & NaI	1
	11	Benzyl chloride will give white ppt soluble in NH_4OH on reaction with aq KOH followed by Dil HNO_3 & AgNO_3 , Chloroethene will not	1
	12	a) Wurtz –Fittig reaction b) Sandmeyer’s reaction	1x2
	13	a) Resonance effect and inductive effect	1x2

		b) due to symmetry of para isomers that fits in crystal lattice as compared to the ortho and meta isomers	
	14	a) Racemisation b) Ambident nucleophile	1x2
	15	Any sec alkyl halide Mechanism with transition state	1 1+1