



INDIAN SCHOOL SOHAR
CHEMISTRY THEORY (043)
UNIT TEST 1 (2024-25)

SET-2

CLASS : XII
DATE : 26/05/24

MAX. MARK : 20
TIME : 40 MINUTES

General instructions:

1. There are **10** questions in this question paper with internal choice.
2. SECTION A- consists of 6 multiple-choice questions carrying **1** mark each.
3. SECTION B- consists of 1 very short answer questions carrying **2** marks each.
4. SECTION C- consists of 1 short answer questions carrying **3** marks each.
5. SECTION D- consists of 1 case-based question carrying **4** marks.
6. SECTION E- consists of 1 long answer questions carrying **5** marks with internal choice.
7. **All questions are compulsory.**
8. **Use of log tables and calculators is not allowed**

SECTION – A

The following questions are multiple –choice with one correct answer. Each question carries 1 mark. There is no internal choice in this section.

1. A tertiary alcohol is obtained by the reaction of Grignard reagent with: 1
 - a) Butanone
 - b) Propanone
 - c) Acetone
 - d) All of the above
2. Tertiary alkyl halides are practically inert to substitution by SN 2 mechanism because of 1
 - a) steric hindrance
 - b) inductive effect
 - c) instability
 - d) insolubility
3. Which of the following has the highest freezing point? 1
 - a) 1 M Glucose
 - b) 1 M NaCl
 - c) 1 M CaCl₂
 - d) 1 M AlF₃
4. Which is the correct increasing order of boiling points of the following compounds? 1
1-Iodobutane, 1-Bromobutane, 1-Chlorobutane, Butane
 - a) Butane < 1-Chlorobutane < 1-Bromobutane < 1-Iodobutane
 - b) 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane < Butane
 - c) Butane < 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane
 - d) Butane < 1-Chlorobutane < 1-Iodobutane < 1-Bromobutane

In the following questions (Q.no.5 and 6) 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 the correct explanation for assertion.
- (b) Assertion and reason both are correct statements, but reason is **not** the correct explanation for assertion.
- (c) Assertion is correct statement, but reason is wrong statement.
- (d) Assertion is wrong statement, but reason is correct statement.

The following question is a long answer type, carrying five marks with an internal choice.

10. A. How the following conversions can be carried out?

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- i) *tert*-butylbromide to isobutylbromide.
- ii) Phenol to Benzoic acid
- iii) 2-bromopropane to 1-methoxy propane

B. Write the mechanism of acid-catalyzed hydration of ethene to yield ethanol.

OR

An organic compound, **A(C₂H₆O)** reacts with sodium to form a compound **B** with the evolution of H₂ and gives a yellow compound **C** when treated with iodine and NaOH. When heated with concentrated H₂SO₄ at 413 K, it gives a compound **D(C₄H₁₀O)**. which on treatment with concentrated HI at 373 K gives **E**. D is also obtained when B is heated with E. Identify A, B, C, D and E. Write equation for the reaction involved.