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**PERIODIC TEST**

**GRADE – XII MARK - 20**

**SUBJECT – CHEMISTRY TIME – 40 MINS**

**GENERAL INSTRUCTIONS:**

1. All Questions are compulsory.
2. Question number 1 to 5 carry 1 mark.
3. Question number 6, 7 carry 2 marks.
4. Question number 8, 9 carry 3 marks.
5. Question number 10 carry 5 marks.

1. A primary alkyl halide would prefer to undergo \_\_\_\_\_\_\_\_ .

a) SN2 reaction b) SN2 reaction

c) α-Elimination d) Racemisation

2. Which of the following events does not occur during SN2 reaction mechanism?

a) Black side attack of nucleophile b) formation of carbonium ion

c) One step continuous process d) 100% inversion of configuration

3. Which is the correct increasing order of boiling points of the following compounds?

a) Bromobenzene < 1- Bomobutane < 1- Bromopropane < 1- Bromoethane

b) Bromobenzene < 1- Bromoethane < 1- Bromopropane < 1- Bromobutane

c) 1- Bromopropane < 1- Bromobutane < 1- Bromoethane < Bromobenzene

d) 1- Bromoethane < 1- Bromopropane < 1- Bromobutane < Bromobenzene

4. Which of the following statement are correct about mechanism of this reaction?

a) A carbocation will be formed as an intermediate in the reaction.

b) OH-- will attach the substrate (II) from one side and Cl-- will leave it simultaneously from other side.

c) An Unstable intermediate will be formed in which OH-- and Cl-- will be attached by weak bonds.

d) Reaction proceeds through SN1 mechanism.

5. Molecules whose mirror image is non - super-imposable over them are known as chiral.

Which of the following molecules is chiral in nature?

a) 2- Bromobutane b) 1- Bromobutane

c) 2- Bromopropane d) 2- bromopropan-2-ol

6. Which of the following compounds would undergo SN1 reaction faster and why?

A) Chloromethyl cyclohexane B) C6H5CH2Cl

7. Write the structures and names of the compounds formed when compound ‘A’ with

molecular formula, C7H8 is treated with Cl2 in the presence of FeCl3.

8. Give one example to illustrate the following reactions.

i) Sandmeyer reaction ii) Swart’s reaction iii) Wurtz-Fittig reaction.

9. Arrange the following compounds in order of increasing reactivity towards nucleophilic

substitution reactions. Give reasons.

i) 2, 4- Dinitrochlorobenzene ii) Chlorobenzene iii) 4- Chloronitrobenzene

10. Primary alkyl halide C4H9Br (A) reacted with alcoholic KOH to give compound (B).

Compounds (B) is reacted with HBr to give (C) which is an isomer of (A). When (A) is

reacted with Na metal, it gives a compound (D), C8H18 which is different from the

compound formed when n-butyl bromide is reacted with sodium. Give the structural

formula of (A) and write the equations for all reactions.