S S LC Top Test Series

KP(G)
Std 10

Chemistry
(Chapter 5, 6, 7)

Time: 45 Mnts
Score : 20

Instructions:

- The first 7 minutes are cool-off time.
- Time is spent for reading the question paper you are not suppose to write any thing during cool-off time.
- Read the instructions carefully and attempt this questions.

Type-A

[Attempt any 2 questions from 1 to 3 . Each question carries 1 score]

[2×1=2]

1. The catalyst used in the industrial preparation of sulphuric acid is _____
2. The general molecular formula of alkynes is_____
3. The monomer of PVC is _____

[Attempt any 2 questions from 4 to 6 . Each question carries 2 score]

[2×2=4]

4.a) What is the functional group of esters?

b) What is meant by esterification?

5.a) Write down the IUPAC name of the compound $CH_3–CH_2–CH_2–Cl$.

b) Write down the structural formula of its position isomer.

6.a) What happens on dropping concentrated H_2SO_4 on a cotton cloth?

b) Which property of concentrational H_2SO_4 is revealed here?

[Attempt any 2 questions from 7 to 9 . Each question carries 3 score]

[2×3=6]

7. Consider the reaction $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$

a) Which are reactants and products in this reaction?

b) Does pressure affect the reaction at equilibrium ? Why?

8. The molecular formula of an organic compound is C_5H_{12}.

a) Write down its structural formula.

b) Write down the structural formula of 2 chain isomers of the above compound?

[P.T.O]

9.a) Write down the structural formula and IUPAC name of product A in the given chemical equation.

$CH_2=CH_2+H_2 \xrightarrow{Ni} \xrightarrow{\Delta}$

b) Name the types of reaction.

[Attempt any 2 questions from 10 to 12 . Each question carries 4 score] [2×4=8]

10. The structural formula of two organic compounds are given.

i) $CH_3-O-CH_2-CH_3$ C_3H_8O

ii) $CH_3-CH_2-CH_2-OH$ C_3H_8O

a) Write down the IUPAC names of these compounds.

b) Write down one similarity and one differences between these two compounds.

c) What is the phenomenon in these compounds known as?

11. $CH_3-OH + CO \xrightarrow{Catalyist} CH_3-COOH$

(A) (B)

a) Identify A and B. Given their IUPAC names.

b) Write down the structural formula and IUPAC name of the next homologue of compound (B).

12.a)How is ammonia gas prepared in the lab?

b) Why is ammonia gas passed through quick lime?

c) Ammonia is collected in a gas jar. Which is kept inverted. Why?

Type-B

[Attempt any 2 questions from 1 to 3 . Each question carries 1 score]

[2×1=2]

1. The industrial preparation of ammonia is known as _____process.
2. The general molecular formula of alkenes is_____
3. Polythene is the polymer of _____

[Attempt any 2 questions from 4 to 6 . Each question carries 2 score]

[2×2=4]

4. $\underset{\text{ethanoic acid}}{CH_3–COOH} + \underset{\text{ethanol}}{HO–CH_2–CH_3} \xrightarrow{Con.H_2SO_4} A + H_2O$

   a) Complete the above chemical equation.

   b) Write down the IUPAC name of A.

5. Write down the IUPAC name of the following.

   a) $CH_3–CH_2–\underset{\displaystyle CH_2–CH_3}{\underset{|}{CH}}–CH_3$

   b) $CH_3–CH_2–\underset{\displaystyle Cl}{\underset{|}{CH}}–CH_2–CH_2–CH_3$

6. How is a sulphate identified?

[Attempt any 2 questions from 7 to 9 . Each question carries 3 score]

[2×3=6]

7.a) Write down the structural formulae of propan-1-o1 and propan-2-o1.

   b) Name the type of isomerism shown by them at equilibrium.

8. Consider the reaction at equilibrium $N_2+3H_2 \rightleftharpoons 2NH_3$ +heat

   What is the effect of the following changes on the rate of forward reaction?

   a) More N_2 is added to the system.

   b) Temperature is decreased.

   c) Pressure is increased.

9.a) Soaps do not lather well in hard water. Give reason.

   b) List out one merit and one demerit of detergents compared to soaps.

[Attempt any 2 questions from 10 to 12 . Each question carries 4 score] [2×4=8]

10. **Match the columns A, B & C suitably.**

Reactants (A)	Products (B)	Name of the reaction (C)
$C_2H_6+O_2$	$CH_2=CH_2+CH_4$	Substitution reaction
$CH_3-CH_2-CH_3$	$CH_3-CH_2Cl+HCl$	Addition reaction
$CH\equiv CH+H_2$	CO_2+H_2O	Thermal cracking
$CH_3-CH_3+Cl_2$	$CH_2=CH_2+H_2$	Combustion

11.a) What change do you observe when a few drops of concentrated H_2SO_4 is added to sugar taken in a watch glass?

b) Which property of concentrated H_2SO_4 is shown in the reaction?

c) How do dehydrating agents differ from drying agents?

12. Find out the isomeric pairs from the following? To which type of isomerism do each pair belong?

a) $CH_3-CH_2-CH_2-OH$ C_3H_8O

b) CH_3-CH_2-OH C_2H_6O

c) $CH_3-CH_2-O-CH_3$ C_3H_8O

d) $CH_3-\underset{\displaystyle CH_3}{\underset{|}{CH}}-CH_2-CH_3$ C_5H_{10}

e) CH_3-CH_2-Cl C_2H_5Cl

f) $CH_3-CH_2-CH_2-CH_2-CH_3$ C_5H_{12}