Oct-2013

Seat No. | | | | | | |

केंद्रक - 043

CHEMISTRY PAPER - II (NEW) (12136) CH-122
Organic & Inorganic Chemistry

P. Pages : 3

Time : Two Hours

Max. Marks : 40

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicate full marks.
6. Use of logarithmic table and non programmable calculator is allowed.

1. Attempt **any eight** of the following. **8**

i) Ethyl alcohol reacts with thionyl chloride to give --------

a) $CH_3 - CH_2 - Cl + HCl$ b) $CH_3 - CH_2 - Cl + H_2O + SO_2$

c) $CH_3 - CH_2 - Cl + HCl + SO_2$ d) $CH_3 - CH_2 - Cl + SO_2 + Cl_2$

ii) Molecular formula of alkyl halide is ------

a) $C_n H_{2n+2} X$ b) $C_n H_{2n+1} X$

c) $C_n H_{2n} X$ d) $C_n H_{2n} X_2$

iii) The grouping >CO present in ------

a) Ethers b) Alcohols

c) Ketones d) None.

iv) Km_nO_4 is acts as a -------

a) Oxidizing agent b) Reducing agent

c) Precipitating agent d) Complexing agent.

v) In Friedel craft reaction hydrogen atom of benzene ring is replaced by ----

a) Alkyl Group b) Acyl Group

c) Alkyl or Acyl Group d) Sulphonic Acid Group.

vi) Acetic Acid on reaction with NaOH gives ------

a) Sodium Acetate b) Sodium Acetate and Water

c) Ethyl Alcohol d) None.

vii) Acetyl chloride on reaction with Ammonia produces -----
a) Acetic Acid b) Acetamide
c) Acetic anhydride d) Ammonium Acetate.

viii) In the titration solution pipette out in the titration flask is called as -----
a) Analyte b) Titrant
c) End point d) Equivalent point.

ix) Standard solution is a solution of -------
a) accurately known concentration
b) definite quantity of substance in definite volume
c) secondary standard
d) both a and b.

x) One millimole is equal to -------- moles.
a) $1/1000$ b) $1/100$
c) 1000 d) 100.

2. Answer **any four** of the following. 8

i) Identify the products A and B of the following reaction.

$$CH_3 - Br + KCN \longrightarrow A \xrightarrow{H_3O^+} B$$

ii) Write a note on hydroboration of alkenes.

iii) What are aldehydes and ketones ? Give one example each.

iv) What is the effect of following on CH_3COOH. (any one)
a) $SOCl_2$ b) $NaHCO_3$.

v) Define the term Normality. Give one example.

vi) Give any two examples of secondary standard substances.

3. Answer **any two** of the following. 8

i) Write a notes on the following (any one)
a) Aldol condensation b) Cannizzaro reaction.

ii) Write the reaction of friedel craft's alkylation and friedel craft's acylation.

iii) Define the terms : Titrant, Analyte, Equivalence point and End point.

केंद्रक - 043

4. Answer **any two** of the following. **8**

i) What are ethers ? How will you prepare symmetrical and unsymmetrical ethers by Williamson Synthesis.

ii) Explain Huckel's rule of Aromaticity with suitable examples.

iii) How many grams of KOH is required to prepare 0.25N 500ml solution of it. (Molecular weight of KOH = 56)

5. a) What is SN^2 reaction ? Explain its mechanism with energy profile diagram. **6**

OR

What are standard solutions and primary standard substances. Give requirements and examples of primary standard.

b) Give the classification of monohydric alcohols with example. **2**

****