Reg. No.: ……..

Name: ……..

SECOND YEAR HIGHER SECONDARY EXAMINATION SAMPLE QUESTION PAPER

Part III **Time: 2 Hours**

CHEMISTRY **Cool-off time: 15 Minutes**

Maximum : 60 Scores

General Instructions to Candidates.

- There is a 'Cool off time' of 15 minutes in addition to the writing time.
- Use the 'Cool of time' to get familiar with questions and to plan your answers
- Read questions carefully before answering.
- Read the instructions carefully.
- Calculations, figures and graphs should be shown in the answer sheet itself.
- Give equations wherever necessary.
- Electronic devices except non programmable calculators are not allowed in the examination hall.

വിദ്യാർത്ഥികൾക്കുള്ളപൊതുനിർദ്ദേശങ്ങൾ

- നിർദ്ദിഷ്ടസമയത്തിന്പുറമെ 15 മിനിട്ടു 'കൂൾഓഫ്ടൈം'ഉണ്ടായിരിക്കും
- 'കൂൾഓഫ്ടൈം'ചോദ്യങ്ങൾപരിചയപ്പെടാനുംഉത്തരങ്ങൾആസൂത്രണംചെയ്യാനുംഉപയോഗിക്കുക
- ഉത്തരങ്ങൾഎഴുതുന്നതിനുമുമ്പ്ചോദ്യങ്ങൾശ്രദ്ധാപൂർവ്വംവായിക്കണം
- നിർദ്ദേശങ്ങൾമുഴുവനുംശ്രദ്ധാപൂർവ്വംവായിക്കണം
- കണക്കുകൂട്ടലുകൾ, ചിത്രങ്ങൾ , ഗ്രാഫുകൾഎന്നിവഉത്തരക്കടലാസിൽതന്നെഉണ്ടായിരിക്കണം
- ആവശ്യമുള്ളസ്ഥലത്തുസമവാക്യങ്ങൾകൊടുക്കണം
- പ്രോഗ്രാമുകൾചെയ്യാനാകാത്തകാൽക്കുലേറ്ററുകൾഒഴികെയുള്ളഒരുഇലക്ട്രോണിക്ഉപകരണവുംപരീക്ഷഹാളിൽഉപയോഗിക്കുവാൻപാടുള്ളതല്ല

II YEAR HIGHER SECONDARY EXAMINATION MODEL QUESTION PAPER

CHEMISTRY **Time:2hrs**

Total marks:60

SECTION -A

(Answer any four .Each question carry one mark each)

1.The unit of rate constant of a first order reaction is------

2.Choose an ambidendate ligand from the following ligands(H_2O,(en),CN^-, NH_3)

3.Select a material for insulator (Teflon,Carbon black,graphite,polyaniline)

4.Which of the following shows haloform reaction(a)methanal b)ethanol, c)benzaldehyde d)methanol)

5.Carbylamine reaction is given by [(a)CH_3-NH-CH_3,b)CH_3CN c)CH_3NH_2 d)CH_3NO_2]

SECTION-B

(Answer any 8 question from 6-15.Each question carries 2 scores)

6.Write two difference between order and molecularity

7.What are colligative properties?Give two examples.

8.Cu(s) +2Ag^+(aq) $\Longrightarrow$ Cu^{2+}(aq) + 2Ag (s).Write cell notation and identify anode and cathode.

9.a)Draw the structure of [CrO^{2-}]

b)Which ion forms coloured compounds Cu^{2+} or Zn^{2+}.Explain.

10)Write IUPAC name of the following coordination compounds.a)[$Co(NH_3)_5Cl]SO_4$

b)$K_2[PtCl_4]$

11.Write Fittig reaction

12.Write commercial method of preparation of Phenol.

13.Give two tests to distinguish aldehydes and ketones.

14.Convert Aniline to Phenol(Write equations)

15.What are reducing and non-reducing sugars.Explain with examples.

SECTION-C

(Answer any 8 questions from 16-26.Each question carries 3 marks each)

16.What are non-ideal solutions?How they are classified? Give one example for each class.

17.a)Define Kohlrausche's Law

b)Calkulate Limiting molar conductivity of $Ca(OH)_2$.Limiting molar conductivities of $CaCl_2$,NaOH and NaCl are 271.6,249.2 and 126.4Scm^2mol^{-1} respectively.

18.What is Hinsberg reagent?How it can be used for distinguishing 1^0 ,2^0,3^0 amines?

19.Identify A and B

CH_3-CH_2-CHBr-CH_3 $\xrightarrow{\text{alcoho.KOH}}$ A + B

Will A and B are equal amount?If no which is major component and state the rule behind it?

20)What is Lanthanoid contraction?How it effect the transition metal chemistry?

21)The structure of protien is divided into primary ,secondary,tertiary and quarternary .Explain atleast three type of structures.

22)a)Define Molal elevation constant.

b)The Boiling Point of Benzene is 353.23K.When 1.8 g of a non-volatile solute is dissolved in 90 g.of benzene,the boiling point is raised to 354.1K.Calculate the molar mass of solute . Kb for benzene is 2.53K Kg/mol.

23)Explain magnetic nature of complex $[NiCl_4]^{2-}$ and $[Ni(CN)_4]^{2-}$.Explain with reason.

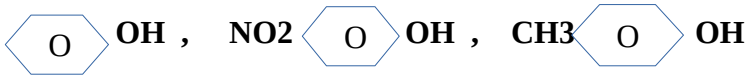
24)Write the Name of the reaction .Identify A and B in two equations.

a)$CH_3COCl + H_2 \xrightarrow{Pd/BaSO4} A + HCl$

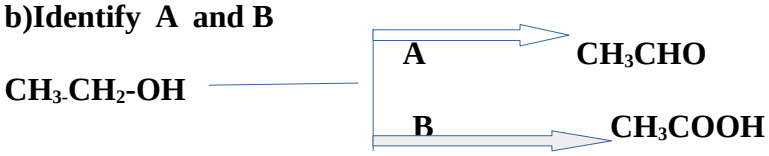
b) 

25)a)Chloroform on air oxidation give a poisonous gas.Name the gas.
b)Write difference between S^N1 and S^N2 reactions.

26)a)Arrange the following compounds according to the increasing order of activity.



b)Identify A and B



SECTION-D

(Answer any four questions from 27 -31.Each question carry 4 marks each)

27. a)Draw theCrystal Field splitting of 5 degenerate d orbitals in octahedral field for the [Co(NH3)6]3+ complex. (2 marks)

b)What are the different type of structural isomerism shown by coordination complexes(2marks)

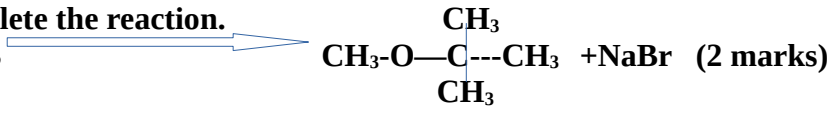
28)a)Explain Cannizzaro reaction with a suitable example.(2 marks)

b)$CH_3-CH_2-CHO \xrightarrow{dil.NaOH} A \xrightarrow{\Delta} B$

Identify A and B..Name the reaction.

29)a)Alkyl halides on reaction withsodium alkoxides will give you an Ether.Name the reaction.

Complete the reaction.

A + B 

b)What is Reimer-Tiemann reaction? (2 marks)

30)a)Sketch H2-O2 Fuel Cell.What are its advantages over conventional cells?(2 marks)

b)What are the electrochemical reactions involved during corrosion of Iron? (2marks)

31)a)What is the relation between rateconstant K and Temperature? (1 mark)

b)The decomposition of A into products has value of k as4.5x 10 3 s-1 at 10 0c.and energy of activation 60 kj/mol.At what temperature would k be 1.5x10 4 s-1? (3marks)