CLASS XII
SAMPLE PAPER
CHEMISTRY

General Instructions:

(i) All questions are compulsory.

(ii) Marks for each question are indicated against it.

(iii)Question numbers 1 to 5 are very short-answer questions and carry 1 mark each.

(iv)Question numbers 5 to 10 are short-answer questions and carry 2 marks each.

(v)Question numbers 11 to 22 are also short-answer questions and carry 3 marks each.

(vi)Question number 23 is value based question and carries 4marks.

(vii)Question numbers 24 to 26 are long-answer questions and carry 5marks each.

Q.No.1 Identify the order from each of the following rate constant

(a) $K=2.3x10^{-5}$ L $Mol^{-1}sec^{-1}$

(b) $K=4x10^{-10}$ sec^{-1}

Q.No.2 Name two metal carbonyls which are liquid at room temperature.?

Q.No.3 Why is H_2SO_4 acid do not used during the reaction of alcohol with KI?

Q.No.4 How is aniline obtained from benzoic acid?

Q.No.5 Which disease occur due to deficiency of Vit.C and why Vit.C can not store in our body ?

Q.No.6 What are biodegradable polymer give example?

Q.No.7 State the role of activation complex in a reaction and state its reaction with activation energy?

Q.No.8 Why Mn^{+2} compounds more stable than Fe^{+2} toward oxidation to their +3 state?

Q.No.9 $[Fe(H_2O)_6]^{+3}$ is strongly paramagnetics whereas $[Fe(CN)_6]^{3-}$ is weakly paramagnetic .Explain why?

Q.No.10 Explain by giving example:

(a)Williamson ether synthesis.

(b) Kolbes reaction

(c) What type of drug is chloramphenicol. Define that?

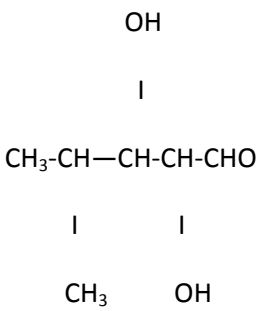
Q.No.11 Give reason that :

(a) Aromatic amines are less basic than aliphatic amine?

(b) Write the order of the following amine in order of basic strength (In aquas solution)

Et_2NH, Et_3N, $EtNH_2$

(c) Write the I.U.P.A.C. name of



Q.No.12 Give the answer of following:

(a) The two strands in DNA are not identical but complementary.Explain?

(b)What are essential and non essential amino acid give one example of each? (1+1)

(c) Explain :Discuss the mechanism of SN^1 reaction of Haloalkanes?

Q.No.13(I)Write the monomer of

(a)N-66 (b)N-66

(II) Distinguish between homopolymers and copolymers.Give one example of each?

Q.No.14Discuss the two ways in which drug prevent attachment of natural substrate on active site of an enzyme?

OR

(I)What are the main constituents of DETTOL?

(II)What is the tincture of iodine and what are its use?

Q.No.15 (I) Write the IUPACE name of

$[Pt(NH_3)_2Cl_4]^{-2}$

(II)Name the two complexes which are used in medicine?

(iii) Phenol are more acidic than alcohol?

Q.No.16 The 1st order rate constant for the decomposition of C_2H_5I by the reaction:

$C_2H_5I(g) \longrightarrow C_2H_4(g)+HI(g)$

At 600K is $1.60x10^{-5}sec^{-1}$. Its activation energy is 209KJ/Mol.Calculate rate constant of reaction at 700K?

Q.No.17Explain what is observed:

(I) When abeam of light is passed through a colloidal sol.

(II)When current is passed through a colloidal sol.

(III) An electrolyte , NaCl is added to hydrated ferricoxide sol.

Q.No.18Explain the following:

(i)Dialysis (ii)Tyndall effect (iii)Electrophoresis

OR

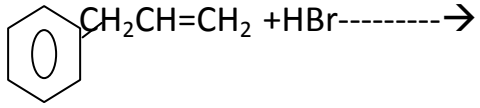
(I) A sol is prepared by addition of excess of KI to $AgNO_3$ sol which of following must be most effective for coagulation

$[Fe(CN)_6]^{-4}$, Al^{+3} ,PO_4^{-3} , Mg^{+2}

(II) What are pseudo order reaction give example?

(III) What is shape selective catalysis give an example ,which is used in petrochemical industries?

Q.No.19 (a) write the product of this reaction:



(b)Convert Ethene to Bromoethene

(c) Benzene is treated with methyl chloride in presence of $AlCl_3$

(1+1+1+1)

Q.No.20 (i)Give reaction only distinguish between primary, secondary, 3^0 alcohol by Victor Meyers test.

(ii)Convert Anisol to Phenol.

(iii) Why propanol have high Boiling Point than that of Hydrocarbon like Butane?

Q.No.21 Give the chemical test to distinguish between the pair of following compound

(1) Benzaldehyde and Acetophenone

(2) Phenol and propanoic acid

Q.No.22 Give the answer of following:

(1) Write two main function of carbohydrate in plants?

(2) Explain the term mutarotation and give example?

(3) What happens when D-glucose is treated with

(a)Bromine water (b)HNO_3 (1+1+1)

Q.No.23

(1) What is the difference between thermosetting and thermoplastic polymer and give one example of each.?

(2)Write the name and structure of one of the common initiator used in free radical addition polymerization? (2+1)

Q….////Value based question may asked from –CELL AND BATTERY,POLYMER ,SURFACE CHEM,EVERYDAY CHEM IN LIFE,

(1)Name the sweetening agent used in the preparation of sweet for a diabetic patient?

(2)Write the formula of paracetamol and use

(3)What do you understand by broad spectrum antibiotic Give an example?

(1+1+1)

Q.NO.24 Give the answer of following:

(1) Actinoid contraction is greater from element to element than Lanthanoid contraction.

(2) K_2PtCl_6 is well known compound whereas coorsponding Ni compound is not known why?

(3)indicate the step I the preparation of $K_2Cr_2O_7$ from chromite ore?

(4)Explain why transistion element show variable oxidation state and write possible oxidation state shown by Mn?

(1+1+2+1)

OR

(1) Consider the following data for a reaction

(2) A+B--→ Product

Experiments.	Initial Concentration		Rate ($MolL^{-1}Sec^{-1}$)
	A	B	
1	0.10M	1.00	$2.1X10^{-3}$
2	0.20M	1.00	$8.4X10^{-3}$
3	0.20	2.00	$8.4X10^{-3}$

Determine order of reaction with respect to A and B overall order of reaction.

ii) What is the effect of catalyst on activation energy and why?

iii) Is there any reaction for which reaction rate does not decrease with time?

Q.25) Write the balance chemical reaction for the following

a) Acetic acid is treated with Zinc metal

b) Thionyl chloride react with benzoic acid

c) Sodium Benzoate is heated with soda lime (1+1+1)

II) Write the structure of the organic compound A to D

OH

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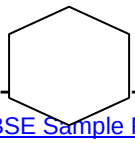

Zn Conc.HNO_3 Br H_2/Pt-V

○ ----------→ A ----------→ B -----→ C ----------→D

Δ H_2SO_4

(2)

OR

An organic compound (A)with molecular formula C_8H_8O form an orange –red precipated with 2,4-DNP reagent and give yellow precipate on heating with iodine in the presence of sodium hydroxide .It neither reduce Tollens reagent or Fehling reagent,nor does it decolorize bromine water or Bayers reagent. On drastic oxidation with a chromic acid it give a carboxylic acid (B) having molecular formula $C_7H_6O_2$. identify (A) and (B) and explain the reaction involved?

Q.No.26(A) What happens when

(1) Nitro Propane is treated with lithium aluminium hydride.

(2) Ethyl isocyanide undergo hydrolysis.

(3) Benzene diazonium Chloride react with Phenol in basic medium. (1+1+1)

(B)Give the answer of following

(1) Why amines less acidic than alcohol of compararable molecular mass?

(2) Aromatic amine are weaker base than aliphatic amine? (1+1)

OR

i) An organic compound A on treatment with aqueous ammonia and heating forms compound B which on heating with Br_2 and KOH form a compound C a molecular formula C_6H_7N. Write the structure and IUPAC name of compound of A, B, C. (3)

ii) Write short note with reaction

a) Diazotisation reaction.
b) Hinsberg test (1+1)

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