

CHOITHRAM SCHOOL MANIK BAGH INDORE**CLASS XII Session: 2017-18****Subject: Chemistry****Allotment Date: 10 /11/17****Assignment No: IV****Submission Date: 17/11/17**

S.No	QUESTION	MARKS	LEVEL
OBJECTIVE TYPE			
1.	What is cannizzaro reaction?	1	Knowledge
2.	Arrange the following compounds in the increasing order of their acid strength : Benzoic acid, p-nitrobenzoic acid , 3,4-Dinitrobenzoic acid	1	Understanding
3.	Di-tert-butylketone does not give precipitate with NaHSO ₃ whereas acetone does. Give reason.	1	hot
SHORT ANSWER TYPE I			
4.	Predict the product formed when cyclohexancarbaldehyde reacts with following reagents: i)Tollen's reagent ii)semicarbazide and weak acid.	2	knowledge
5.	Carboxylic acids are more acidic than alcohols or phenols although all of them have hydrogen atom attached to a oxygen atom (-O-H) ?	2	understanding
6.	Compound 'A' was prepared by oxidation of compound 'B' with alkaline KMnO ₄ . Compound 'A' on reduction with lithium aluminium hydride gets converted back to compound 'B'. When compound 'A' is heated with compound 'B' in the presence of H ₂ SO ₄ it produces fruity smell of compound 'C'. Identify the family to which the compounds A , B and C belong to ?	2	logic
7.	Compound 'X' (C ₂ H ₄ O) on oxidation gives 'Y' (C ₂ H ₄ O ₂). 'X' undergoes haloform reaction. On treatment with HCN 'X' forms a product 'Z' which on hydrolysis gives 2-hydroxypropanoic acid? i) Write the structures of 'X and 'Y'. ii) Write the equations for the reactions involved.	2	Hot
SHORT ANSWER TYPE II			
8.	Explain the following by giving suitable reasons: a) Acetic acid is a weaker acid than chloroacetic acid. b) During the reaction of ammonia derivatives with aldehydes & ketones the pH of the reaction is fully controlled.	3	understanding
9.	Arrange the following as directed : i)in increasing order of pK _b values : C ₂ H ₅ NH ₂ , C ₆ H ₅ NHCH ₃ , (C ₂ H ₅) ₂ NH, and C ₆ H ₅ NH ₂ ii)In increasing order of basic strength: C ₆ H ₅ NH ₂ , C ₆ H ₅ N(CH ₃) ₂ , (C ₂ H ₅) ₂ NH , and CH ₃ NH ₂ Justify your answer in each case.	3	Multi conceptual
10.	Formaldehyde is a gas and is soluble in water. It is used as a disinfectant and as a germicide. It has also been used in the manufacture of a number of polymers such as bakelite, urea-formaldehyde etc. It is also used in medicines for urinary tract infections. i) What is formalin and what is its use? ii) Is formaldehyde more reactive or less reactive than its next homologue acetaldehyde towards nucleophilic addition reactions ? iii)Write the structure of the polymer Bakelite.	3	Value based
LONG ANSWER TYPE			
11.	An unknown aldehyde 'A' on reacting with alkali gives β-hydroxy aldehyde, which loses water to form an unsaturated aldehyde, but-2-enal. Another aldehyde 'B' undergoes disproportionation reaction in the presence of conc. Alkali to form products 'C' and 'D'. 'C' is an aryl alcohol with formula C ₇ H ₈ O. i)Identify 'A' and 'B'. ii) Write the sequence of the reactions involved. iii) Name the product when 'B' reacts with zinc amalgam and hydrochloric acid	5	Logic
12.	Account for the following : i)pK _b of aniline is more than that of methylamine. ii)Ethylamine is soluble in water whereas aniline is not . iii)although amino group is o- and p- directingin aromatic electrophilic substitution reactions, aniline on nitration gives a substantial amount of m-nitroaniline. iv)Aniline does not undergo Friedel-Crafts reaction. v)Gabriel pthalimide synthesis is preferred for synthesizing primary amines.	5	Hot