

CENTRE Date: 3/17/2019House no 1552/A Ghosia colony GulbaharNo.2, Karachi**Guess paper XII**Prepared by: Mohammad Raza Ansari**SECTION 'B' (SHORT QUESTIONS' ANSWER)****INORGANIC**

- 1) State periodic law, write its modification form. Why the law required modification.
- 2) Define PERIODS, GROUPS & BLOCK of long form of Periodic table
- 3) Give advantage and disadvantage of Mendeleev's Periodic table.
- 4) How is H₂ prepared on large scale in pure state.(give any two preparations).
- 5) Why H is placed in group 1A suggest an alternate position, give reasons.
- 6) How is SODA ASH and other allied compound manufactured, write all the details of the process.
- 7) Write hydrolysis products of the following:
 - (i) Boron nitride
 - (ii) Calcium carbide
 - (iii) Aluminum nitride
 - (iv) Magnesium nitride
- 8) How is pure aluminum extracted from alumina OR Write the extraction of pure Cu from copper pyrite ore (CuFeS₂).
- 9) Give reasons:
 - (i) The ionization energy decreases down the groups of Periodic table.
 - (ii) NH₃ acts as ligand but NH₄⁺ does not
 - (iii) Why ionic radius of cation is smaller than its atomic radius.
 - (iv) Why ΔH_{hyd} decreases down group IA and IIA in periodic table.
- 10) Complete the reactions:

C	+	HNO ₃	$\xrightarrow{\text{conc.}}$
S	+	H ₂ SO ₄	$\xrightarrow{\text{conc.}}$
K ₂ MnO ₄	+	Cl ₂	\longrightarrow
H ₂ S	+	Fe ³⁺	\longrightarrow

ORGANIC

- 1) How the following compounds are prepared from 2-Chloro propane.
 - (i) Propene
 - (ii) 2-Propanol
 - (iii) propane
 - (iv) 2,3 di methyl butane
- 2) Write Markownikoff's Rule give its application in addition reactions of Alkene & Alkyne.
- 3) Define Electrophile – write general mechanism of electrophilic substitution reaction
- 4) How an Alcohol can be converted into:
 - (i) Alkyl halide
 - (ii) Carboxylic acid
 - (iii) Ester
 - (iv) Ether
- 5) Write one preparation of each of the following:
 - (i) Phenol
 - (ii) Methyl Alcohol
 - (iii) Acetone
 - (iv) Acetic anhydride
- 6) Write distinction test between

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- (i) Ethene & Ethyne (ii) Benzene & Ethene (iii) Aldehyde & Ketone (iv) Aliphatic and Aromatic compound
- 7) Define and Classify any one of the following:
 (i) Carbohydrate (ii) Amino acid (iii) Lipids
- 8) Draw pyranose structure of α , D(+) & β -D(+) glucose.
- 9) Explain one of the following:
 (i) Fertilizer (ii) Glass (iii) Detergent

SECTION 'C' (DETAILED QUESTIONS' ANSWER)**INORGANIC**

- 1) How is H_2SO_4 or HNO_3 manufactured on large scale.
- 2) Compare the properties of Diamond & Graphite in detail.
- 3) Write short note on the following:
 (i) Photography (ii) Bleaching Powder (iii) Corrosion and its prevention
- 4) Describe the properties of Transition metal
 (i) Color of their compound
 (ii) Interstitial compound
 (iii) Variable oxidation state
 (iv) Complex formation
- 5) Write one preparation of $\text{K}_2\text{Cr}_2\text{O}_7$, write one reaction each in which Potassium dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$) & potassium Permanganate (KMnO_4) acts as an oxidizing agent.

ORGANIC

- 1) Explain any two of the following:
 (i) Cracking (ii) Polymerization & its types. (iii) Functional Group
- 2) How is ethyl alcohol manufactured from starch write its conversion into following
- 3) What are Grignard Reagent, with its reactivity and preparation. Convert G.R into Carboxylic Acid.
- 4) Convert 1,2 dichloro ethane to ethene and ethyne, give the names of each reaction.
- 5) Explain Molecular Orbital theory of structure of Benzene.
- 6) Convert Benzene to
 (i) O – Nitro benzoic acid
 (ii) Meta – Nitro toluene
- 7) Describe S_N reaction, compare its two Mechanisms.

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