

SECTION 'B' (Short-Answer Questions) (42)

NOTE: Attempt FIVE questions from this section in all, selecting at least two questions from Inorganic chemistry and two from organic chemistry. All questions carry equal marks.

INORGANIC CHEMISTRY

2 i) Refer to the list of given compounds.

Compound	A	B	C	D
Specific Name	Carnallite	Blue Vitriol	Potash Alum	Barytes

- * Write chemical formula of A and D.
- * Write chemical formula of B and give chemical equation when it is heated at 230°C.
- * Write three uses of C.

ii) Write the IUPAC names of any four of the following:

- * $K_3[Fe(C_2O_4)_3]$
- * $[Co(CN)_6]^{-3}$
- * $[Cu(NH_3)_4]SO_4$
- * $[Ni(en)_2Cl_2]^{+2}$
- * $[Cr(H_2O)_6](NO_3)_3$

iii) Write the group and periods of the following elements with Atomic numbers.

- * Z = 18
- * Z = 24
- * Z = 34
- * Z = 47

iv) Write equation for the following reactions:

- * Reaction of SO_2 with Cl_2
- * Heating MgO with carbon and Cl_2 gas.
- * Reaction of Mg with cold and dilute HNO_3
- * Reaction of Aluminium with cone H_2SO_4

v) Describe the extraction of sodium metal by Down's process.

vi) What is Aqua regia? How does gold dissolved in it. Write its equation.

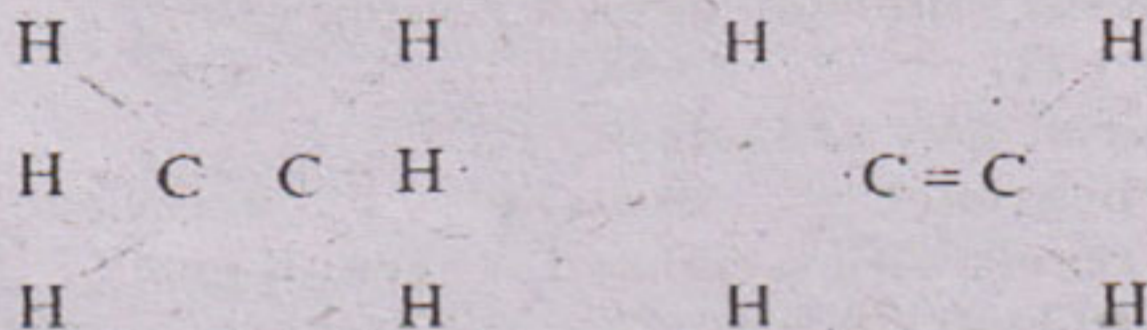
ORGANIC CHEMISTRY

vii) Define the following:

- * Polymerization
- * Homologous series
- * Glycosidic Linkage
- * Catenation

viii) Write the classification of organic compound with examples.

ix) The structure of two significance organic molecules A and B are shown below:



- * Draw the hybrid orbital structure of 'B'
- * Give simple chemical test between A and B
- * Write equation for the preparation of 'A' from CH_3I .
- * Write chemical equation for reaction of 'B' with S_2Cl_2 .

x) Write I.U.P.A.C names any four of the following:

- * $(CH_3)_2 - CH - (CH_2)_2 - CH(CH_3)_2$
- * $CH_3 - (CHOH)_2 - CH_2OH$
- * $CH_2 = CHCHClCH_2C = CH$
- * $CH_2 = CH - CH_2CHO$
- * $CH_3 - CH_2COCH(CH_3)_2$

SECTION 'C' (Detailed-Answer Questions)(17)

NOTE: Answer 2 questions from this Section. One from Inorganic Chemistry and one from Organic Chemistry.

INORGANIC CHEMISTRY

3. What is metallurgy? Describe the extraction of 99.99% pure Aluminium from bauxite one containing SiO_2 and Fe_2O_3 as impurities.

OR

Complete and balance the following equations:

- * $Al_4C_3 + H_2O \rightarrow$
- * $K + O_2 \rightarrow K + O_2$
- * $Cr_2O_3 + KOH + Br_2 \rightarrow$
- * $CuSO_4 + KI \rightarrow$
- * $Al + KOH + H_2O \rightarrow$
- * $S + HNO_3 \rightarrow$
- * $CH_4 + HNO_3 \rightarrow$
- * $Fe_2O_3 + Al \rightarrow$

4. Define Binary compounds of hydrogen. Give their classification. Explain the preparation and properties of ionic hydride.

ORGANIC CHEMISTRY

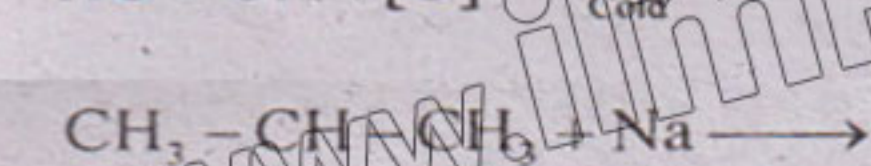
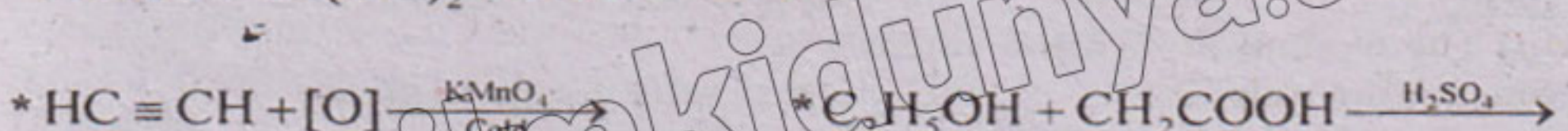
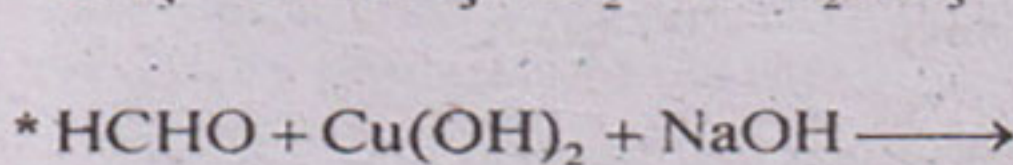
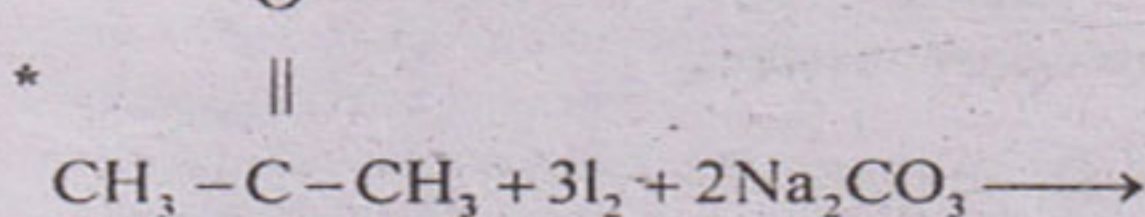
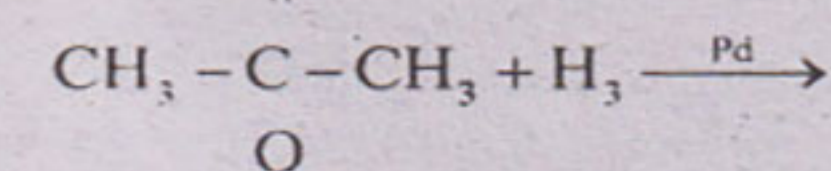
5. Explain the molecular orbital treatment of benzene; write the reaction of benzene with H_2 and O_2 .

OR- Explain SN^1 and SN^2 reaction mechanism with example.

6. Define Fermentation. How is ethanol manufacture by the fermentation of the following.

- * Starch
- * Molasses

--OR Complete the following reactions:



Cl

نوٹ: سال 2020 میں گیارہویں اور بارہویں جماعت کے امتحانات نہیں ہوئے تھے۔