

Reason: Hydrocarbons consist of covalent bonds.

- A and R are correct, R explains the A.
 - A is correct, R is wrong.
 - A is wrong, R is correct.
 - A and R are correct, R doesn't explain A.
20. **Match the following**

Functional group -OH	-	Benzene
Heterocyclic	-	Potassium stearate
Unsaturated	-	Alcohol
Soap	-	Furan
	-	Ethene

21. Name the acid that renders aluminium passive. Why?
 22. Calculate the pH of 1×10^{-9} molar solution of NaOH.

PART-III

Answer any seven questions. Questions No.32 is compulsory.

(7 × 4=28)

- Give the salient features of "Modern atomic theory".
- The electronic configuration of metal A is 2,8,18,1. The metal A when exposed to air and moisture forms B a green layered compound. A with con. H₂SO₄ forms C and D along with water. D is a gaseous compound. Find A,B,C and D.
- Name the acid that renders aluminium passive. Why?
- Write notes on various factors affecting solubility.
- Classify the following substances into deliquescent, hygroscopic.
(Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride, and Gypsum salt)
- Differentiate reversible and irreversible reactions
- a) Explain the types of double displacement reactions with examples.
b) Can a nickel spatula be used to stir copper sulphate solution? Justify your answer.
- Classify the following compounds based on the pattern of carbon chain and give their structural formula: (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan
- Differentiate soaps and detergents.
- Calculate the % of each element in calcium carbonate. (Atomic mass: C-12, O-16, Ca -40)

PART-IV

Answer all the questions

(3 × 7=21)

- a) Derive the relationship between Relative molecular mass and Vapour density **(OR)**
b) Explain smelting process.
- a) What happens when MgSO₄ · 7H₂O is heated? Write the appropriate equation **(OR)**
b) How does pH play an important role in everyday life?
- a) How is ethanol manufactured from sugarcane? **(OR)**
b) An organic compound 'A' is widely used as a preservative and has the molecular formula CH₄O₂. This compound reacts with ethanol to form a sweet smelling compound 'B'.
(i) Identify the compound 'A'.
(ii) Write the chemical equation for its reaction with ethanol to form compound 'B'.
(iii) Name the process.