

**ANNAI VIOLET ARTS AND SCIENCE COLLEGE**

**DEPARTMENT OF CHEMISTRY**

**CONTINUOUS INTERNAL ASSESSMENT – II (ODD SEM.)**

**SUBJECT : CHEMISTRY I**

**Class : I B. Sc., Biochemsitry**

**Date : 3.11.2022**

**Max.Marks : 75**

**Sub. Code: SD3AA**

**PART A (10 × 2 = 20 Marks)**

**Answer any TEN questions**

1. Write notes on Isobars and Nuclear Isomers with examples.
2. State Binding Energy. Give its formula.
3. What are silicones?
4. Define hardness. Give its types.
5. Sketch group displacement law. Give example.
6. Give any two applications of radioactive isotopes.
7. Formulate the preparation of urea.
8. Distinguish between LPG and CNG.
9. Represent nucleophile with a suitable example.
10. What are organic compounds?
11. Illustrate with example hybridization.
12. Provide an example and represent the formation free radical

**PART B – (5 × 5 = 25 Marks)**

**Answer any FIVE questions**

13. Discuss mass defect. Show that  $1\text{amu} = 931\text{Mev}$ .
14. Illustrate the reverse osmosis process with suitable block diagram.
15. Brief out the break point chlorination.
16. Outline the process involved in the COD.
17. Predict the hybridization in methane and ethane
18. Sketch the flow chart for the classification of organic compounds.
19. Narrate the process involved in the determination of BOD

**PART C – (3 × 10 = 30 Marks)**

**Answer any THREE questions**

20. a) Outline the types of radioactive series with an example.  
b) Discuss in detail the mechanism and characteristics of nuclear fission.
21. Categorize the composition and uses of water gas, LPG, Gobar gas, CNG, producer gas.
22. Sketch the demineralization process and zeolite process.
23. Give the preparation properties and uses of silicones.
24. a) Illustrate with suitable diagram the hybridization involved in benzene and ethylene.  
b) Enumerate the classification of organic reactions with suitable examples.