

B.Sc. DEGREE EXAMINATION, APRIL 2020
I Year I Semester
General Chemistry - I

Time : 3 Hours

Max.marks :60

Section A ($10 \times 1 = 10$) Marks

Answer any **TEN** questions

1. What is meant by Inductive effect?
2. Distinguish between nucleophiles and electrophiles.
3. Define Saytzeffs rule.
4. What do you mean by Addition reaction? Give example.
5. Compare Elimination and Substitution reactions.
6. What is Fajans rule? Give its consequence.
7. What is dipole moment?
8. Compare molecular orbital theory with valence band theory.
9. Why we need green chemistry?
10. What are the goals of green chemistry?
11. What are the precautions for acid poisoning?
12. What are antidotes?

Section B ($5 \times 4 = 20$) Marks

Answer any **FIVE** questions

13. Explain the hybridisation of benzene.
14. Distinguish between SN^1 and SN^2 reaction mechanism.
15. Discuss Born-Haber cycle and give its applications.
16. What is meant by Hydrogen Bonding? Give its classification and explain.
17. Write any four examples of green synthesis.
18. Explain safety measures in laboratory.
19. Explain the relative stability of Carbocations.

Section C ($3 \times 10 = 30$) MarksAnswer any **THREE** questions

20. a) What is meant by Hybridisation?
How will you enumerate the shape of methane, ethane and Ethylene? (7)
b) Explain Curly arrow rules with example. (3)
21. a) Explain E_2 reaction mechanism in details. (4)
b) Give the effects of reaction mechanism briefly. (3)
c) State and explain Hoffmans rule. (3)
22. a) Show the Molecular Orbital Diagram for i) O_2 ii) NO (5)
b) Describe the Band theory of Metals. (5)
23. a) Discuss the twelve principles of green chemistry. (6)
b) Give the limitations of green chemistry. (4)
24. a) Explain the handling method of acids, ethers and toxic chemicals. (6)
b) Discuss the First Aid techniques. (4)

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