B.Sc. DEGREE EXAMINATION,NOVEMBER 2018
I Year I Semester
Core Major - Paper I
GENERAL CHEMISTRY - I

Time : 3 Hours **Max.marks :60**

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

Answer any **TEN** questions

1. What is hybridisation?
2. Differentiate nucleophilicity and basicity.
3. What is addition reaction. Give an example.
4. Tertiary- butyl chloride undergoes S_N^1 reaction while methyl chloride follows S_N^2. reaction, why?
5. Define hydrogen bonding. Give an example.
6. State Bent's rule.
7. State the applications of Green chemistry.
8. Write the limitations of green chemistry.
9. Suggest some safety measures to handle acids in laboratory.
10. What is threshold concentration?
11. What is solvation energy?
12. What is Curly arrow rules?

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

Answer any **FIVE** questions

13. Describe the structure of benzene.
14. Explain the mechanism of S_N^1 reaction.
15. State Fajan's rule. Explain the factors affecting the polarisation of anion.
16. List out the twelve principles of Green Chemistry.
17. Discuss the general precautions for avoiding accidents in laboratory.
18. Describe the band theory of metals.
19. Discuss (i) Inductive effect (ii) Hyperconjugation.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Discuss the factors influencing the relative stability of carbocation, carbanion and free radicals.
21. Describe (i) Hofmann and Saytzeff rule (ii) S_N^2 mechanism.
22. Write a short note on (i) Born Haber cycle (ii) USEPR theory.
23. Explain the need for green chemistry with suitable examples.
24. Discuss in detail the various first aid techniques.

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