B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
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. Define hybridisation.
2. What is an electrophile?
3. Give an example of an addition reaction.
4. Compare elimination and substitution reaction.
5. Define radius ratio rule.
6. What is solvation energy?
7. Differentiate intermolecular and intramolecular hydrogen bonding.
8. Give one example for a green reaction.
9. What is threshold vapor concentration?
10. What is the safety measure that is taken to handle acids?
11. Define Bent's rule.
12. What is electronegativity?

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

Answer any **FIVE** questions

13. Discuss (a) inductive effect (b) Resonance.
14. Describe the mechanism of (Nucleophilc substitution inversion) $S_{N^{\text{i}}}$ reaction.
15. Describe the factors influencing the formation of ionic bonds.
16. Draw the M.O diagram and explain the structure of CO molecule.
17. Describe the band theory of metals.
18. Discuss the twelve principles of green chemistry.
19. Explain the various first aid techniques.

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

Answer any **THREE** questions

20. What are carbocations and carbanions? Discuss in detail their stability.
21. Explain Hoffmann and Saytzeff rule.
22. Explain Born-Haber cycle and its application.
23. What is VSEPR theory? Explain the structure of PCl_5 and BF_3 molecules.
24. Discuss (a) the general precautions to avoid accidents in lab. (b) The need for green chemistry.

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