B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
II Year III Semester
General Chemistry- V

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

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

Answer any **TEN** questions

1. How does phenol react with zinc dust?
2. What is Bouvaelt- Blanc reduction?
3. Mention the limitations of First law of thermodynamics.
4. State Carnot theorem.
5. Define entropy.
6. Give the criteria for spontaneity.
7. Define fugacity.
8. List out the uses of borazole.
9. How is Aluminium carbide prepared?
10. Give the ores of Nickel.
11. What is annealing?
12. Define chemical potential.

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

Answer any **FIVE** questions

13. Explain the acidic character of phenols.
14. Discuss the mechanism of nitration and sulphonation..
15. Enumerate and explain the various statements of second law of thermodynamics.
16. Discuss the entropy changes of physical transformations.
17. Derive Gibbs Helmholtz equation.
18. Compare the properties of carbon and silicon.
19. Discuss Van Arkel process of purification of metals.

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

Answer any **THREE** questions

20. Write note on
    a. Kolbes reaction b. Gattermann reaction
    c. Houben Hoesh reaction d. Ledere Mannase reaction.
21. Derive the expression for entropy changes in terms of T,V and P.
22. a. Derive Duhem Margulus equation.
    b. Explain the method of determination of fugacity.
23. What are silicates? How are they classified? Explain with example.
24. Discuss the various stages of extraction and purification of Titanium.

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