B.Sc. DEGREE EXAMINATION,APRIL 2019
I Year I Semester
General Chemistry- V

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

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

Answer any **TEN** questions

1. Why the bond angle in alcohol reduced from $109^0 5'$ to$105^0 5'$?
2. Why tertiary alcohols has higher boiling point than secondary alcohols?
3. Define fugacity.
4. Entropy will increase or decrease with increase of temperature-comment.
5. State the limitation of first law.
6. What are the criteria for spontaneity?
7. Why borane is called inorganic benzene?
8. Give two uses of carbides.
9. Give two examples for sulphide ores.
10. Why borane compounds are electron deficient?
11. What is quenching?
12. Give two advantages of zone refining process.

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

Answer any **FIVE** questions

13. Explain the acidic nature of phenol based on resonance.
14. State trouton's rule and give its applications.
15. State any two statement of second law of thermodynamics.
16. Explain the fugacity of a gas in a a mixture of real gas.
17. Give two methods of preparation of NaBH4.
18. Discuss the classification of silicates.
19. Write short notes on heat treatment.

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

Answer any **THREE** questions

20. Write short notes on
    i) Kolbe's reaction ii) Riemer-Tiemann reaction
    iii) Gatterman reaction iv) Lederer Manasse reaction
21. Explain the Carnot cycle with a neat diagram and prove that efficiency always less than one.
22. Derive Gibbs Helmholtz equation and give its applications.
23. Discuss the structure of diborane and borazole.
24. Give the ores of Uranium. Explain the method of extraction of Uranium from its chief ore.

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