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

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

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

Answer any **TEN** questions

1. Define entropy. What is its unit?
2. What are the conditions for the spontaneity of a process?
3. What is covalent bond?
4. What is elution?
5. Define R_f.
6. Draw the structure of IF_5.
7. Define bond order.
8. Draw enanitomeric structures of lactic.
9. Distinguish ore and mineral.
10. What is a froth floatation process?
11. Distinguish smelting and roasting.
12. What is hybridisation involved in BrF_3?

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

Answer any **FIVE** questions

13. Discuss the magnetic property of Oxygen using MO theory.
14. Discuss the hybridisation involved in benzene.
15. Discuss the Haworth synthesis of napathalene.
16. Define the following: (a) Open system (b) Closed system (c) Isolated system (d) State functions.
17. Discuss cis trans isomerism of maleic and fumaric acids.
18. Write short notes on van arkel and zone refining processes.
19. Discuss the preparation properties of inter halogen compounds.

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

Answer any **THREE** questions

20. State and explain the following : (a) First, second and third law of thermodynamics (b) Carnot theorem.
21. a) Explain elements of symmetry with suitable example
    b) Explain optical isomerism in tartaric acid
22. Discuss the principle and application involved in column chromatography
23. Discuss the properties and uses of naphthalene
24. Define the term hybridisation. Explain the hybridisation state of carbon in ethylene and acetylene

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