B.Sc. DEGREE EXAMINATION,APRIL 2020
II Year III Semester
Allied Chemistry-I

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

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

Answer any **TEN** questions

1. Give the electronic configuration of N_2 molecule.
2. What is bond order?
3. Name any two oxide ores with formla.
4. How is AX_3 type interhalogen compound prepared?
5. Give any two applications of chromatography?
6. Define isothermal processes
7. What are the adsorbents used in column chromatography?
8. What is carnot theorem?
9. Name the hybridization takes place in (i) ethane (ii) C_6H_6
10. Define optical isomerism.
11. What is racemic mixture?
12. What is meant by hybridization?

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

Answer any **FIVE** questions

13. Explain the structure of IF_5 and IF_7.
14. Discuss the various types of ores in reduction method.
15. Distinguish between intensive and extensive properties.
16. Explain various statements of second law of thermodynamics.
17. Write a note on principle and application of paper chromatography.
18. Write a note on optical isomerism of lactic acid.
19. Discuss the hybridization and geometry of C_2H_4 molecule. molecule.

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

Answer any **THREE** questions

20. a) Write note on (i) bonding (ii) antibonding. b) Using molecular orbital theory explain the formation of O_2 molecule.
21. Explain the following refining method (i) Van Arkel (ii) Zone refining.
22. Deduce efficiency equation of heat engine using Carnot cycle.
23. Explain the structural elucidation of naphthalene by Haworth's synthesis.

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