

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.

M.Sc. - END SEMESTER EXAMINATIONS NOVEMBER - 2022

SEMESTER - III

20UPBAT3003 - Allied Chemistry - I

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

Section A

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Write short notes on bonding and anti-bonding molecular orbitals.
2. Sketch out the MO diagram of N_2 and find out the bond order.
3. Analyze the importance of various refining methods in metallurgy.
4. Describe the different statements of second law of thermodynamics.
5. Classify the various types of paper chromatographic techniques involved in separation.
6. Comment on the statement "Thin layer chromatography is superior than column chromatography"
7. Predict the hybridization involved in C_2H_2 and C_6H_6 molecule with neat sketch.
8. Classify the elements of symmetry with examples.

Section B

Part A

Answer any **THREE** questions ($2 \times 10 = 20$ Marks)

9. Predict the shape and hybridization of BrF_3 , IF_5 and IF_7 .
10. Analyse the role of carbon in the properties of steel.
11. Distinguish the following with suitable examples:
 - (i) Intensive and extensive properties
 - (ii) Reversible and irreversible process
12. Discuss the principle and applications of column chromatography. Analyse the role of adsorbents used in column chromatography.
13. Explain the Haworth's synthesis of Naphthalene. Discuss the applications of Naphthalene
