

University College of Engineering (A)
Department of Chemistry
B.E I/IV- I-Semester Class Test -II
(Civil, EEE, Mining and Mech Branches)
Engineering Chemistry

Time: 1hr

Part-A (Marks : 6)

Marks: 20

Note: Answer All Questions

- | | | |
|--|-------|------|
| 1) Find out the magnetic moment of $(\text{Co}(\text{NH}_3)_6)^{+3}$ complex | (CO3) | (1M) |
| 2) Differentiate between addition & condensation polymers. | (CO4) | (2M) |
| 3) Calculate the bond order of O_2 molecule. | (CO3) | (1M) |
| 4) Write the selection rules involved in vibrational spectroscopy | (CO3) | (2M) |

Part-B (Marks: 14)

Note : Answer any two of the following

- 4) a. Draw the molecular orbital diagram of N_2 molecule and calculate its bond order. (CO3) (4M)
- b. What are liquid crystals? Write a short note on Cholesteric liquid crystals. (CO4) (3M)
- 5) a. Write the preparation, properties and uses of the i) Bakelite ii) Butyl Rubber. (CO4) (4M)
- b. Explain the transitions involved in electronic Spectroscopy. (CO3) (3M)
- 6) a. Explain the salient features of crystal field theory and draw the crystal field splitting diagram in tetrahedral complexes. (CO3) (5M)
- b. Mention the applications of conducting polymers. (CO4) (2M)
-

Quiz (Marks-5)

1. Soap is an example ofLiquid crystal.
2. Lewis acid is used inconducting polymers.
3.andare monomeric units of polyester.
4. Liquid crystals are used for measuring the temperature.
5. The bond order of NO
6. Range of UV-Visible region is
7. e_g orbital's have lower energy than t_{2g} orbital's in.....complexes.
8.Liquid crystal can coat a drug.
9. In Ethylene molecule transitions are possible.
10. CFSE value of d^{3+} ion in an octahedral complex is