

S-447

Total Pages : 3

Roll No.

MCH-506

Inorganic Chemistry-II

M.Sc. Chemistry (MSCCH)

2nd Semester Examination, 2022 (Dec.)

Time : 2 Hours]

[Max. Marks : 35

Note : This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half ($9\frac{1}{2}$) marks each. Learners are required to answer any Two (02) questions only.
($2 \times 9\frac{1}{2} = 19$)

1. Define the Hughes-Ingold mechanism for substitution reaction in octahedral complexes.

2. Discuss the mechanism of substitution reaction in square planar complexes and factor affecting it.
3. Discuss the two different types of spectrophotometric methods to determine the stability constant of metal complexes.
4. What are the three different types of configuration in the chain growth polymer of monosubstituted olefin? Explain the mechanism for the polymerization process in olefins by using Ziegler-Natta catalyst.
5. Discuss the various factors which affect the stability of complexes by using suitable example.

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Explain the hydroformylation process with its mechanism.
2. Discuss SN_1CB mechanism for base hydrolysis of octahedral complexes.

3. What is trans effect and trans effecting series?
 4. How do you convert the terminal olefin to internal olefin?
Explain by using suitable example.
 5. Discuss the bonding in metal nitrosyl by using the suitable example.
 6. Define the structure of CO_2 $(\text{CO})_8$ in solid state.
 7. Explain the nitrogen fixation in biological system.
 8. What are iron sulfur proteins? Define their characteristics.
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