Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 19

M.Sc.(Chemistry) (PIT) (2016 to 2017) (Sem.-2)

REACTIVE INTERMEDIATES-II

Subject Code : CHL-412

M.Code : 51149

Time : 3 Hrs. **Max. Marks : 70**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying FIVE marks each and students have to attempt ALL questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write briefly :

1) Write structure of any two Gilman reagents.

2) What product would be formed if organozinc reagent is added on to C=X hetero bond?

3) How carbonyl group can be converted to alkene?

4) How $Hg(OAc)_2$ do oxidation?

5) Show general representation of pyrolytic elimination.

6) What is Chugaev elimination?

7) Write structure of diisopinocamphenyl borane.

8) What do you mean by migration aptitude in rearrangement reaction?

9) What product is formed in Beckmann rearrangement?

10) What is the role of LAH in organic synthesis?

SECTION-B

11) Discuss 1,3-dipolar addition reaction by taking appropriate examples.

12) Discuss Sharpless asymmetric epoxidation. Provide details on regio- and chemo-selectivity as observed in this reaction.

13) How will you do oxidation of methylene to carbonyl and allylic oxidation of olefins? Explain with example.

14) What is ozonolysis? Discuss its mechanism by taking two appropriate examples.

15) What is the role of DIBAL in organic synthesis? Explain with examples.

16) Discuss the mechanism of Neber rearrangement with examples.

SECTION-C

17) What is Hydroboration? Discuss its mechanism and stereochemistry. What is the synthetic utility of hydroboration reaction? Explain by taking two examples with mechanism.

18) Write mechanistic detail of El process. Also discuss with examples effect of medium (solvent) and attacking base in El, E2 and ElcB mechanism.

19) Write short note on following with mechanism :

    (a) Wolf-rearrangement

    (b) Hoffmann rearrangement

    (c) Curtius rearrangement

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.