Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 19

M.Sc.(Chemistry) (Campus) (2015 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

1. Write chemical equation for Steven rearrangement.
2. What do you mean by 'Michael addition'?
3. Write the structure and application of 9-BBN.
4. What is hydrogenolysis?
5. What is Cope elimination?
6. What is Stobbe reaction?
7. Write mechanism of ElcB.
8. Write chemical equation for Mannich reaction.
9. How DMSO in combination with DCC can be used for oxidation reaction?
10. Discuss reduction reaction of ester and nitrile.

SECTION-B

11. Write a brief note on Wagner-Meerwein and Demjanov rearrangement.

12. Discuss oxidation reaction of methylene and aryl methenes by citing suitable examples.

13. Discuss stereo chemical aspect as observed in Horner-Wittig reaction by taking suitable example.

14. Explain mechanism of ozonolysis by taking suitable examples.

15. Write a short note on :

    a) Clemensen Reduction

    b) Wolf-Kishner reduction

16. Describe mechanism of addition of organozinc and organolithium reagents to carbonyl compounds with suitable examples.

SECTION-C

17. Write a short note on following with special emphasis on stereo chemical aspect wherever applicable :

    a) Sharpless asymmetric epoxidation

    b) Hydroboration

18. Explain the differences between E1 and E2 mechanism by taking suitable examples. How we can predict whether substitution or elimination will be the principal reaction observed with a particular combination of reactants?

19. Write mechanism of following rearrangements :

    a) Von-Richter rearrangement

    b) Arndt-Eistert synthesis

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.