

Roll No. 

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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  $\text{E}_{\text{lcB}}$ .
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.**