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

Total No. of Pages : 02

Total No. of Questions : 19

M.Sc. (Chemistry) (Campus) (2015 to 2017) (Sem.–3)

CONNECTION AND DISCONNECTION APPROACH IN ORGANIC SYNTHESIS

Subject Code : CHL-504

M.Code : 74892

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. How five-membered ring can be synthesized?
2. What do you mean by 'Disconnection Approach'?
3. Discuss strategy of radical reaction in organic synthesis.
4. What are synthons?
5. What are ketenes?
6. Discuss disconnection approach for synthesis of amine.
7. Write one example of one group C-X disconnection in carbonyl compound.
8. What do you mean by reconnection?
9. By taking suitable example discuss regioselectivity.
10. What is the special job acetylene can do in organic synthesis?

SECTION-B

11. Discuss umpolung (reversal of polarity) of carbonyl compound by taking suitable examples.

12. "*If the carbon framework of the target molecule (TM) is difficult to construct, one strategy is to construct a slightly different framework by conventional reaction and rearrange it to the TM*". Justify the statement with suitable example.

13. Discuss any two examples for advanced strategy in disconnection approach.

14. Discuss two group C-X disconnection in 1,5- difunctionalized compounds with example.

15. Write a brief note on :

    (a) Chemoselectivity

    (b) Cyclization reaction

16. Discuss one group C-C disconnection by taking suitable examples.

SECTION-C

17. What do you mean by order of events? Discuss importance of the order of events in organic synthesis by taking suitable examples.

18. Explain two group C-X disconnections in 1,2- and 1,4- difunctionalized compounds by taking suitable examples.

19. Discuss in detail disconnection approach for aromatic heterocycle with special emphasis on five- and six- membered rings.

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.