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MCH-607

Synthetic Organic Chemistry-II

M.Sc. Chemistry (MSCCH)

4th Semester Examination, 2023 (June)

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. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only. (2×9½=19)

1. Write note on :

(a) Asymmetric epoxidation.

(b) Asymmetric Diel's-Alder reaction.

(c) Felkin-Anh model.

(d) Target molecue. (9½)

2. Explain the following :

(a) Catalytic hydrogenalions.

(b) Syn-hydroxylation of 2, 3–cholestene.

(c) Stereoselectivity.

(d) Synthon. (9½)

3. Write the reterosynthetic analysis and synthesis of Disparlure.

4. Explain the terms :

(a) Regio selectivity.

(b) Chemoselectivity.

(c) Cyclisation reactions. (9½)

5. Write note on :

(a) Retron.

(b) Diels-Alder reaction.

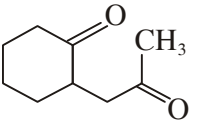
(c) Principle of stereoselectivity. (9½)

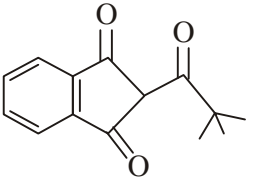
SECTION–B

(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. Suggest the reterosynthetic analysis for the following molecules. (4)





2. Explain the following terms :

(a) Functionalization.

(b) Functional group inter conversion.

(c) Retron. (4)

3. Discuss the important guidelines used for the retrosynthetic analysis of aromatic compounds by disconnection approach. (4)

4. What is reversal of polarity ? Explain with suitable example. (4)

5. How will you explain terms topicity and prochirality ? Take suitable examples. (4)

6. Outline the different strategies of asymmetric synthesis. (4)

7. Write note on :

(a) Gram's open chain model.

(b) Gram's cyclic model. (4)

8. Write a note on Prelog's rule. (4)
