

G 5857

(Pages : 3)

Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, AUGUST 2013

Second Semester

Faculty of Science

Branch : Chemistry

AN2C 06/AP2C 06/CH2C 06/PH2C 06/PO2C 06—ORGANIC REACTION MECHANISMS

(2012 Admissions)

Time : Three Hours

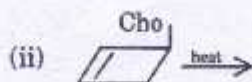
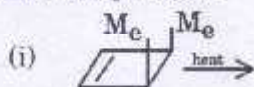
Maximum Weight : 30

Section A

Answer any ten questions.

Each question carries a weight of 1.

1. Acetolysis of trans-2-iodo cyclohexyl brosylate is many times faster than its cis isomer. Explain.
2. Illustrate Saytzel rule with an example.
3. Draw and explain structure of carbanion. Give its one method of preparation.
4. What is carbocation ? Briefly explain about its stability.
5. Draw and explain structure of carbene and its stability.
6. Explain oxymercuration reaction.
7. What is Baldwin rule ? Explain.
8. Write the mechanism of Aldol condensation.
9. How will you prepare secondary and tertiary alcohol from carbonyl compound ?
10. Explain Chelotropic reaction using suitable example.
11. Discuss stereochemical aspects of Diels-Alder reaction.
12. Predicts the products



13. Explain ene reaction with suitable example.

(10 × 1 = 10)

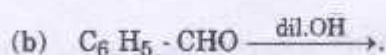
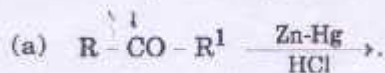
Turn over

Section B

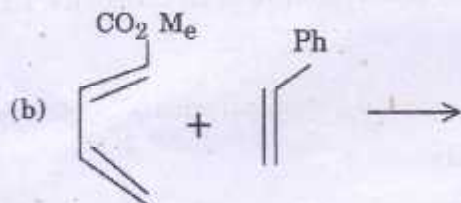
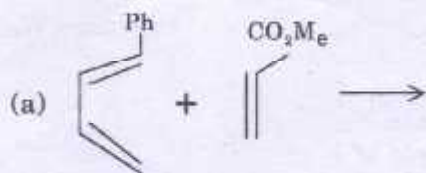
Answer **five** questions by attempting not more than **three** questions from each bunch.
Each question carries a weight of 2.

Bunch 1 (Problem type)

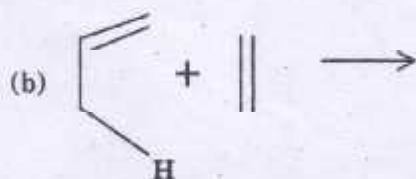
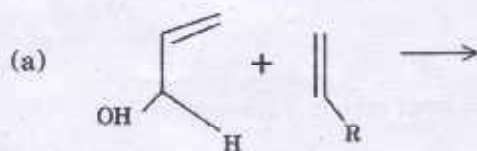
14. Predict and explain the products with mechanism :



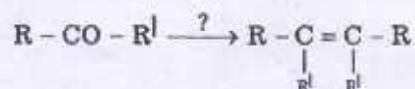
15. Predicts the major products and explain the reaction :



16. Predicts the major products and explain the reaction :



17. (i) Predict the reagent and explain



(ii) Illustrate with suitable example on Barton decarboxylation.

Bunch 2 (Short Essay Type)

18. Compare S_N1 and S_N2 reaction on aliphatic carbon.
19. Explain Shapiro reaction and Julia elimination.
20. Explain classical and non-classical carbocation using suitable example.
21. What is arenes ? How they are formed ? Explain the orientation effect on amination of halo arenes.

(5 × 2 = 10)

Section C

Answer any **two** questions.

Each question carries of weight of 5.

22. (i) Discuss the factors affecting elimination reaction.
(ii) Explain with suitable example about chemistry of Sulphur Ylids.
23. Write a note on —Noyori annulation, Prins reaction, Lossen rearrangement, Schmidt rearrangement and Beckmann rearrangement.
24. (a) Explain with suitable example on addition, rearrangement and fragmentation reaction which involving radical intermediate.
(b) Explain the mechanism of Mannich reaction and Robinson annulation.
25. Predict the feasibility of thermal and photochemical closure of E, Z, E - 1, 6. dimethyl hexa - 1, 3, 5 - triene to 5, 6 - dimethyl cyclohexa - 1, 3 - diene on the basis of FMO method and correlation approach.

(2 × 5 = 10)