



K23P 0462

Reg. No. : .....

Name : .....

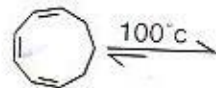
**II Semester M.Sc. Degree (CBSS – Reg./Supple./Imp.) Examination, April 2023**  
**(2019 Admission Onwards)**  
**CHEMISTRY**  
**CHE2C.06 : Organic Chemistry – II**

Time : 3 Hours

Max. Marks : 60

**SECTION – A**Answer **all** questions in **one** word or **one** sentence. **Each** question carries **1** mark.

1. What are chelotropic reactions ?
2. Write the structure of Fmoc and BOC protecting groups.
3. Draw the structure of camphor.
4. What are fluxional molecules ?
5. Predict the product of the following reaction.



6. What are anthocyanins ?
7. What is DIBAL-H ?
8. What are the monomers of nylon-6,6.

**(8×1=8)****SECTION – B**Answer **any eight** questions. Answer may be in **two** or **three** sentences. **Each** question carries **2** marks.

9. Give a method for the synthesis of paracetamol.
10. What are the different classes of pericyclic reactions ?
11. Draw the MOs of 1,3-butadiene and assign HOMO and LUMO.

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12. What are the biological functions of vitamin C ?
13. What is Cope rearrangement ? Explain.
14. What is Shapiro reaction ?
15. Illustrate Heck reaction.
16. Explain McMurray reaction.
17. What are the different classes of alkaloids ?
18. How polyurethanes are prepared ?
19. What is Emde degradation ?
20. What is polymer compounding ?

**(8×2=16)****SECTION – C**Short paragraph questions. Answer **any four** questions. **Each** question carries **3** marks.

21. Explain the synthesis of phenobarbital.
22. Derive Woodward-Hoffmann rules for [3,3] sigmatropic reactions.
23. Write a note on synthesis of testosterone.
24. Explain the mechanism of Barton reaction.
25. Which is more reactive  $\text{LiAlH}_4$  or  $\text{NaBH}_4$  ? Why ?
26. Discuss the preparation and applications of phenol-formaldehyde resins.
27. Explain Prevost and Woodward hydroxylation of alkenes.
28. Discuss the synthetic preparation of vitamin A.

**(4×3=12)****SECTION – D**Essay type questions. Answer **four** questions. **Each** question carries **6** marks.

29. A) Discuss the synthetic applications of i) Gillman's reagent ii) LDA iii)  $\text{SeO}_2$   
 OR



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- B) Explain the name reactions:
  - i) Simon-Smith reaction
  - ii) Dieckmann condensation
  - iii) Wolff-Kishner reduction .

30. A) With suitable examples, explain the stereochemistry and regioselectivity of Diels-Alder reactions.

OR

- B) Using correlation diagram method, derive Woodward-Hoffmann rules for the electrocycloisolation of a linear conjugated  $4\pi$ -electron system under thermal and photochemical conditions.

31. A) Discuss the structure and synthesis of vitamin C.

OR

- B) Discuss about the structure and chemistry of nucleic acid bases.

32. A) Write an account of structure and biological importance of cortisone.

OR

- B) Discuss briefly the structure elucidation of papaverine.

**(4×6=24)**