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.

P.T.O.

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 $LiAlH_4$ or $NaBH_4$? 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) SeO_2

OR

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 electrocyclisation of a linear conjugated 4π-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)**
