



K19P 0265

Reg. No.:

Name:

II Semester M.Sc. Degree (Reg./Suppl./Imp.)
Examination, April 2019
(2014 Admission Onwards)
CHEMISTRY
CHE2C06 : Organic Chemistry – II

Time : 3 Hours

Max. Marks : 60

SECTION – A

Answer **all** questions in **one** word or **one** sentence. **Each** question carries **one** mark.

1. Illustrate the ene reaction.
2. Can a [1,7] sigmatropic shift occur ? Justify your answer.
3. What reagents are required to convert indole to indole-3-carboxaldehyde ?
4. What is the product formed when propene is oxidized using selenium dioxide ?
5. How are alkaloids isolated from a crude extract ?
6. Explain any one test for a terpene.
7. Give the structure and synthesis of PMMA.
8. What is adenosine ? Depict its structure.

SECTION – B

Answer **any eight** questions. Answer may be in **two** or **three** sentences. **Each** question carries **two** marks.

9. Illustrate the product formation when maleimide reacts with furan.
10. Illustrate the (2, 3) Wittig rearrangement reaction.
11. Dis-rotation leads to retention. Justify the statement with suitable illustration.
12. How can acetone be converted to methyl vinyl ketone ?
13. Provide reagents to convert ethyl cinnamate to (i) cinnamaldehyde and (ii) cinnamyl alcohol.
14. Illustrate the Stork enamine reaction.

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15. Depict the biosynthesis of mevalonic acid from acetyl coenzyme A.
16. Monoterpenes are prone to carbocationic rearrangements. Depict any two.
17. Depict the structures of piperine, quinine and beta-carotene.
18. Differentiate between nylon 6 and nylon 6, 6.
19. How are Fmoc and BOC groups introduced as protecting groups ?
20. What is the role of Vitamin A in vision ?

SECTION – C

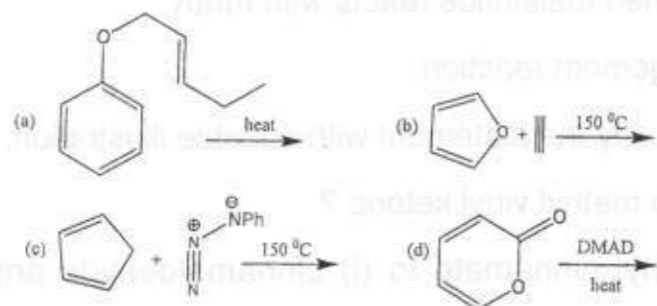
Short paragraph questions. Answer **any four** questions. **Each** question carries **three** marks.

21. Predict the products formed when the following molecules are irradiated (i) (2Z, 4E)-hexadiene and (ii) (2Z, 4Z, 6E)-octatriene.
22. Depict the cycloaddition of tropone with butadiene.
23. How can cyclohexene be converted to (i) cis-diol and (ii) trans-diol ?
24. Explain the Birch reduction of benzoic acid.
25. Differentiate between starch and cellulose structurally.
26. Give the structure and synthesis of flavone and isoflavone.
27. Explain any two processing methods used in plastic industry.
28. Explain the biosynthesis of a sesquiterpene.

SECTION – D

Essay type questions. Answer **four** questions. **Each** question carries **six** marks.

29. A) Predict the products formed from the following reactions.



OR

- B) Explain 1, 3-dipolar cycloaddition providing suitable illustrations.



30. A) Suggest reagents and reactions to synthesize (i) benzil from benzyl phenyl ketone, (ii) cyclohexanone from cyclohexanol, (iii) toluene from benzaldehyde and (iv) 1,2-diphenyl ethane from stilbene.

OR

- B) Give the schematic representation to depict the application of (i) LiAlH_4 , (ii) NaBH_4 , (iii) NaCNBH_3 and (iv) DIBAL-H.

31. A) Explain Hoffmann and Emde degradation methods for alkaloid determination.

OR

- B) How are steroids classified ? Give examples and explain the structure of cholesterol.

32. A) How can SPPS be used to synthesize the tripeptide Gly-Ala-Val ?

OR

- B) Give the structure and synthesis of Vitamin C.