K20P 0307

Reg. No. : .....

Name : .....

II Semester M.Sc. Degree (CBSS – Reg./Suppl./Imp.) Examination, April 2020
(2014 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 **one** mark.

1. Allyl aryl ethers are converted to o-allyl phenols by _____rearrangement.
2. Reagents required to convert pyrrole to pyrrole-2-carbaldehyde are _____
3. Ethyl cinnamate can be reduced to benzaldehyde using _____
4. Depict the structure of cholesterol.
5. To what class of compound does camphor belong ?
6. What are the monomers for phenol formaldehyde resin synthesis ?
7. What nucleic acid bases are present in RNA strand ?
8. Give the structure and one application of Gilman reagent. **(8×1=8)**

SECTION – B

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

9. Which gives faster Diels-Alder reaction with butadiene - maleic anhydride or styrene ? Give the structure of the product in each case.
10. What is the source of H in MPV reduction ? Illustrate.
11. Give one synthetic method for paracetamol.
12. Illustrate Emde degradation with an example.

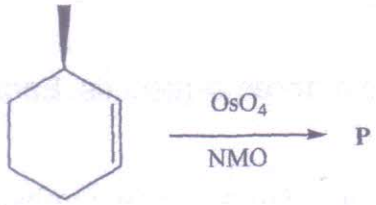
P.T.O.

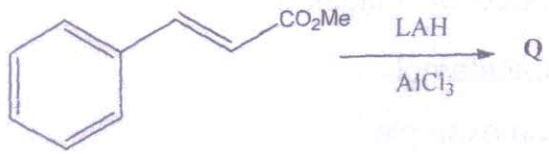
13. What is the method to introduce and remove Fmoc group ?
14. What is vulcanization ?
15. What products are formed on heating :
    i) (2E, 4E)-hexadiene and
    ii) (2Z, 4Z, 6E)– octatriene ?
16. Illustrate the product formed and mechanism when benzoic acid undergoes Birch reduction.
17. Give a one-step conversion method for bromobenzene to trans-stilbene.
18. How is mevalonic acid formed from acetyl coenzyme A ?
19. What monomers are required to synthesize (i) Teflon and (ii) Polyurethane ?
20. Give the structure for starch. **(8×2=16)**

SECTION – C

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

21. Predict the products formed when (i) cyclopentadiene reacts with diethyl fumarate, (ii) (2Z, 4E)-hexadiene is irradiated and (iii) benzalimine is treated with dichloroketene.
22. Why are [2+2] cycloadditions normally possible only on irradiation ?
23. Predict the products P and Q

i) 

ii) 

24. Suggest a method to convert benzaldehyde to benzophenone.

25. Differentiate the structure and biological activity of androsterone and testosterone.

26. Give the structure and importance of Vitamin C.

27. Explain about the structure and biodegradability of cellulose acetate.

28. Illustrate Von Braun degradation with an example. **(4×3=12)**

SECTION – D

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

29. A) Give the structure and synthesis method for nylon 6 and nylon 6,6.

OR

B) What are the various methods for plastic processing ?

30. A) How can the tripeptide Phe-Ala-Gly be synthesized ?

OR

B) Discuss the biosynthesis of cholesterol.

31. A) Explain the orbital correlation diagram for [4 + 2] cycloaddition reaction.

OR

B) Predict the products (i) diazomethane reacts with diphenyl acetylene, (ii) 1- methoxy butadiene reacts with methyl acrylate and (iii) singlet carbene adds to cis-2- butene.

32. A) Predict the products when cyclohex-2-enol reacts with (i) mCPBA, (ii) I_2, AgOAc (iii) 1_2, AgOAc, H_2O.

OR

B) Depict the mechanism of (i) Barton reaction (ii) oxy-Cope rearrangement and (iii) Acyloin condensation. **(4×6=24)**