

V Semester B.Sc. Examination, March/April 2022
(CBCS) (F+R) (2016-17 and Onwards)

CHEMISTRY

Paper – V : Organic Chemistry

Time : 3 Hours

Max. Marks : 70

- Instructions :** i) The question paper has **two** Parts. Answer **both** the Parts.
ii) **Draw** diagrams and chemical equations **wherever** necessary.

PART – A

Answer **any eight** of the following questions. **Each** question carries **two** marks : (8×2=16)

1. What are diastereomers ? Give an example.
2. Write R and S configuration of Glyceraldehyde.
3. Methylamine is more basic than ammonia. Give reason.
4. How is aniline prepared from nitrobenzene ?
5. How is thiophene prepared from acetylene ?
6. Explain Chichibabin reaction.
7. State Isoprene rule.
8. Mention one use each for morphine and menthol.
9. Write Haworth structure of Lactose.
10. What is TMS ? Write its structure.
11. What are direct dyes ? Give an example.
12. Give two principles of green chemistry.

P.T.O.



PART - B

Answer **any nine** of the following questions. **Each** question carries **six** marks : (9×6=54)

13. a) Discuss the optical isomerism in Tartaric acid.
b) Write E and Z configuration of 1-Bromo-2chloro ethene. (4+2)
14. a) Describe chemical method of resolution of racemic mixture.
b) Draw the conformers of decalin. (4+2)
15. a) How do you determine the configuration of maleic acid and fumaric acid by cyclisation method ?
b) How does aniline reacts with acetyl chloride ? Give equation. (4+2)
16. a) Write any two synthetic applications of BDC, which involve evolution of Nitrogen gas.
b) How is ethylamine prepared by Gabriel phthalimide synthesis ? (4+2)
17. a) Explain the basicity of alkylamines on the basis of Inductive effect and solvation effect.
b) What happens when pyrrole is nitrated ? Give equation. (4+2)
18. a) Describe Skraup's synthesis of quinoline.
b) Explain the aromaticity of furan based on Huckel's rule. (4+2)
19. a) How is Glucose is converted into fructose ?
b) What are epimers ? Give an example. (4+2)
20. a) Describe the synthesis of α -citral.
b) Write the structure of Zingiberine. (4+2)
21. a) Write the structure of Nicotine. Give suitable chemical reaction to show the presence of Pyridine ring in it.
b) Give one use each of ephedrine and atropine. (4+2)



22. a) Explain blue shift and red shift with an example.
b) What is finger print region in IR spectroscopy? (4+2)
23. a) Explain shielding and deshielding of protons in NMR spectroscopy.
b) What are Auxochromes? Give an example. (4+2)
24. a) Give the synthesis of Alizarin.
b) Write the structure of diclofenac. (4+2)
25. a) Give the synthesis of sulphanimide.
b) What are antipyretics? Give example. (4+2)