22103122

QP CODE: 22103122

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2022

Second Semester

Complementary Course - CH2CMT02 - CHEMISTRY - BASIC ORGANIC CHEMISTRY

(Common for B.Sc Botany Model I ,B.Sc Botany Model II Environmental Monitoring And Management ,B.Sc Botany Model II Food Microbiology ,B.Sc Botany Model II Horticulture and Nursery Management ,B.Sc Family & Community Science Model I ,B.Sc Food Science & Quality Control Model III ,B.Sc Geology Model I,B.Sc Physics Model I,B.Sc Zoology Model I,B.Sc Zoology Model II Aquaculture,B.Sc Zoology Model II Food Microbiology,B.Sc Zoology Model II Medical Microbiology,B.Sc Geology and Water Management Model III,B.Sc Botany Model II Plant Biotechnology,B.Sc Food Technology & Quality Assurance)

2017 ADMISSION ONWARDS

1D7D7A79

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Define functional group.
2. Write the structural formula of following compounds: (i) 2- chlorohexane (ii) 2-chloropentan-3-ol.
3. Define substitution reactions.
4. What do you mean by the mechanism of a reaction?
5. Write the order of reactivity of given alkyl halides towards S_N2 reaction : CH_3Cl, CH_3CH_2Cl, $(CH_3)_3CCl$, $(CH_3)_2CHCl$.
6. Give the product of the reaction: CH_3-CH_2-CH=CH_2 + HBr →
7. What is an Asymmetric carbon?
8. What are configurational isomers?

9. Sketch the axial and equatorial forms of methyl cyclohexane.

10. What is mer?

11. What is meant by synthetic poymer?

12. How is buna S rubber prepared?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain structural isomerism in organic compounds with suitable examples.

14. Differentiate between
    (a) homolytic and heterolytic fission.
    (b) electrophiles and nucleophiles

15. What is steric effect? Explain the role of steric hindrance in determing the rate of organic rection using suitable examples.

16. Complete the reaction and give its mechanism:
    $C_6H_6 + CH_3COCl + AlCl_3 \rightarrow$

17. (i) How will you convert 2- bromo-2-methylpropane to:
    (a) 2-methyl prop-1-ene
    (b) 2-methyl propan-2-ol
    (ii) Briefly explain the mechanism of both the above conversions.

18. Write a note on structural isomerism.

19. How meso and (dl)- tartaric acid is prepared from maleic and fumaric acid.

20. Distinguish between mechanical separation and biochemical separation.

21. Mention the important uses of natural rubber.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Discuss the structure, formation and generation of free radicals, carbocations and carbanions.

23. Discuss in detail (i) mesomeric effect (ii) hyperconjugation.

24. Illustrate E, Z nomenclature of geometrical isomers with sequence rules?

25. Write a note on biodegradability of polymers. Discuss environmental hazards due to polymers.

(2×10=20)