QP Code: U25C022

Reg. No : .....

Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

III SEMESTER (FYUGP) DEGREE EXAMINATIONS, OCTOBER 2025

CHE3MN203 : ORGANIC AND PHYTOCHEMISTRY

2024 Admission Onwards

(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks* ***(Ceiling: 24 Marks)***

1. Explain the term Carbocation with an example.
2. Differentiate between Electrophile and Nucleophile.
3. Suggest any one method for the preparation of Phenol.
4. Explain the term Denatured spirit.
5. How will you convert alkane to alkyl halide?
6. What is a Grignard reagent ? How does it reacts with carbon dioxide?
7. Name the following compounds.
   1)CH_3-CHO
   2)C_6H_5-CO-CH_3
   3)CH_3-CH(-CH_2-CH_3)-CHO
8. How does the reactivity of formaldehyde, acetaldehyde and acetone differ in nucleophilic addition reactions?
9. Draw the structures of α-D-Glucose and β-D-Glucose.
10. Draw the structure of Coniine. What is the chief source of Coniine?

Section B

*Answer **all**. Each question carries **6** Marks* ***(Ceiling: 36 Marks)***

11. Discuss the characteristics of +I and -I effect.
12. Discuss the order of stability of 1-butene and 2-butene.
13. Give an example for the Haloform reaction.

Turn Over

14. Explain the mechanism of S_N1 reaction with an example.

15. Describe any two methods of synthesis of amines.

16. How is Methyl orange prepared? What is its use?

17. What is the source, structure, and use of Menthol?

18. What is meant by enzyme catalysis? Give an example.What are the functional characteristics of enzyme catalysis?

Section C

*Answer **any one**. Each question carries **10** Marks* ***(1x10=10marks)***

19. (a) Discuss the structure and classification of amino acids. How do they contribute to the structure and function of proteins?
    (b) Explain the concept of Zwitter ion in amino acids. How does this property influence the behavior of amino acids in different pH conditions?

20. (a) Explain mesomeric effect with its applications (b) Explain rearrangement and Redox reaction with example.

****