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(Pages : 2)

Name.....

Reg. No.....

FOURTH SEMESTER M.Sc DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2023

(CBCSS)

Chemistry

CHE 4E 06—NATURAL PRODUCTS AND POLYMER CHEMISTRY

Time : Three Hours (2019 Admission onwards)

Maximum : 30 Weightage

Section A

Answer any **eight** *questions.*

Each question carries a weightage of 1.

1. What are the importances of aromatherapy ?
2. What is the mechanism of action of prostaglandins ?
3. What are the biological functions of Anthocyanins ?
4. Distinguish between a dye and a pigment.
5. What is meant by group transfer polymerization? Give an example.
6. What are living polymers ? What are its uses ?
7. What is mean by polymer tacticity ?
8. Discuss the thermodynamics of polymer solutions.
9. What are liquid crystalline polymers ?
10. What are photo-responsive polymers ? What are their applications ?

(8 × 1 = 8 weightage)

Section B

Answer any **six** *questions.*

Each question carries a weightage of 2.

11. Briefly explain the isolation of Citronella oil. What are its important constituents ?
12. Discuss the structure and biosynthesis of terpinoids.

Turn over

13. Describe the general nature and structure of Isoflavanone.

14. What is β-carotene ? What is its uses and benefits ?

15. Explain the emulsion and dispersion polymerization techniques

16. Discuss the various methods used for the determination of molecular weight of a polymer.

17. Describe a method of determination of degree of cross linking of a polymer.

18. Briefly explain the phase morphology of a polymer.

(6 × 2 = 12 weightage)

Section C

Answer any **two** *questions.*

Each question carries a weightage of 5.

19. (a) Explain a method of isolation of Antocyanin and its characterization.

(b) Discuss the structural elucidation of Ergosterol.

20. (a) Explain the classification of alkaloids.

(b) Explain the common cyanine dyes. Discuss their uses in biotechnology and in industry.

21. (a) Explain the kinetics and mechanism of cationic and anionic polymerizations.

(b) With suitable examples, explain the polymer stereochemistry.

22. (a) Describe the methods of synthesis of polypropylene. Explain the applications of polypropylene.

(b) Explain the use of polymers in organic synthesis.

(2 × 5 = 10 weightage)