QP Code : U24A077

Reg. No : .....

Name : .....

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

I SEMESTER B.A./B.Sc./B.Com/BSW (FYUGP) DEGREE EXAMINATION, November 2024

BOT1MN102 : 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. Compare and contrast the roles of standardization and validation in analytical methods. [BTL4]
2. Analyze the role of catechins in skin care. [BTL4]
3. Apply your understanding of cholesterol's role in membrane structure that affects the fluidity of the cell membrane. [BTL3]
4. How does curcumin work to inhibit cancer cell growth? [BTL3]
5. Which method is more suitable for large-scale industrial extraction: hot extraction or Soxhlet extraction? Justify your answer. [BTL5]
6. What are the major classes of secondary metabolites? [BTL1]
7. Define nutraceuticals and provide examples of phytochemical-derived nutraceuticals. [BTL1]
8. What are polysaccharides, and how do they differ from monosaccharides and disaccharides? [BTL2]
9. Describe how maceration works and its purpose in extraction. [BTL2]
10. Explain the mechanisms of analgesic action of phytochemicals. [BTL2]

Section B

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

11. Compare the roles of primary and teritiary structure in protein function. [BTL4]
12. Explore and compare the roles of ATP and GTP in cellular processes. [BTL4]
13. What are antioxidants and analyze the potential risks of excessive antioxidant supplementation? [BTL4]
14. Evaluate the application of phytochemicals in agriculture. [BTL4]
15. Compare the advantages and disadvantages of using phytochemicals in drug development compared to synthetic compounds. [BTL4]

Turn Over

16. Compare the structural elucidation techniques: NMR, MS and IR. [BTL4]

17. What are the major classes of primary metabolites and explain their importance in plants? [BTL1]

18. State the roles of phytochemicals as bioherbicides and plant growth regulators. [BTL1]

Section C

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

19. Compare the advantages and disadvantages of various isolation techniques of chromatographic methods with Electrophoresis, Precipitation, and crystallization. [BTL3]

20. Classify enzymes based on the type of reactions they catalyze. Add a note on the biological functions of enzymes. [BTL2]

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