TB245634M

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2024

2022 ADMISSIONS REGULAR

SEMESTER V - CORE COURSE (BOTANY)

BO5B07B18 - Plant Physiology and Biochemistry

Time : 3 Hours **Maximum Marks : 60**

Part A

I. Answer any Ten questions. Each question carries 1 mark **(10x1=10)**

1. Define facilitated diffusion.
2. What is oxidative phosphorylation?
3. What is RUBISCO?
4. What are quantasomes?
5. What is Emerson's enhancement effect?
6. How apical dominance occurs in plants?
7. Name a secondary metabolite that protects plants from biotic stress.
8. Name the gaseous hormone. State one of its physiological effect.
9. What is meant by buffer capacity?
10. Explain heteropolysaccharides.
11. What are compound lipids? Give one example.
12. Describe saturated and unsaturated fatty acids. Give one example each.

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Distinguish between active and passive absorption of water. Add a note on apoplastic and symplastic water movement.
14. What is Munch's mass flow hypothesis? Explain the theory with respect to translocation of organic solutes.
15. Analyze the pathway of carbon assimilation in C4 plants.
16. Discuss glycolysis.
17. What is allelopathy? How is it significant as a plant defense mechanism?
18. Explain the methods of measurement of pH.
19. Write the general structure and types of isoprenoids
20. Explain the functions of proteins.
21. Write notes on regulation of enzyme action.

Part C

III. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Explain the role of potassium ions in controlling stomatal movement in plants.
23. Discuss Kreb's cycle and its significance.
24. Citing examples, write an essay on the tropic and nastic movements exhibited by plants .
25. Write an essay on factors affecting enzyme action.