



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 5th Semester Examination, 2022

CC12-BOTANY

PLANT PHYSIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks

GROUP-A

1. Answer any **five** questions from the following: 1×5 = 5
- (a) What is guttation?
 - (b) Name one day-neutral plant.
 - (c) What are phytochromes?
 - (d) Distinguish between diffusion and facilitated diffusion.
 - (e) What are co-transporters?
 - (f) What is pressure potential?
 - (g) Who proposed the pulsation theory of ascent of sap?
 - (h) What inference can you draw from the Avena Curvature test?

GROUP-B

2. Answer any **three** questions from the following: 5×3 = 15
- (a) Write short notes on: 2½+2½
 - (i) Cohesion Tension theory
 - (ii) Cytochrome pump theory.
 - (b) Differentiate between: 2½+2½
 - (i) Transpiration and Guttation
 - (ii) Active Absorption and Passive Absorption of water.
 - (c) Briefly describe the physico-chemical nature of phytochrome. Differentiate between the Pr and Pfr forms of phytochrome. 2+3
 - (d) What is water potential? Mention the components and show how they are related to one another. 1+2+2
 - (e) Discuss the role of abscisic acid in controlling seed dormancy. 5

GROUP-C

3. Answer any *two* questions from the following: 10×2 = 20
- (a) What are essential and beneficial elements? Mention the criteria for essentiality. Give the deficiency symptoms of one macro and one micro nutrient with suitable examples. 3+2+5
- (b) What is dormancy? What are the causes of seed coat induced dormancy? Describe the methods of breaking seed dormancy. 2+4+4
- (c) Differentiate between Auxins and Gibberellins. Write a short note on a gaseous phytohormone. 7+3
- (d) Write short notes on: 2 $\frac{1}{2}$ ×4 = 10
- (i) Symport and antiport
 - (ii) Florigen concept
 - (iii) Chelating agents
 - (iv) Role of ATP in nutrient uptake.

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