

B.Sc. 5th Semester (Honours) Examination, 2022 (CBCS)

Subject : Botany

Course : CC-XI

(Plant Physiology)

Time: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* of the following questions: 2×5=10
- (a) Which factors determine the water potential of a living cell?
 - (b) What is a chelating agent? Cite an example.
 - (c) Distinguish between symplastic and apoplastic movement.
 - (d) What do you understand by active transport of ions?
 - (e) How can you establish the brassinosteroids as PGR?
 - (f) Explain the terms vernalisation and devernialisation.
 - (g) Name two commonly used techniques for bioassay of plant hormones.
 - (h) What are the functions of cryptochrome in plants?
2. Answer *any two* of the following questions: 5×2=10
- (a) Elucidate the mechanism of stomatal movement mentioning the factors involved in it.
 - (b) How do the essential elements differ from a beneficial one? Write down the criteria of essentiality of mineral elements? 2+3=5
 - (c) How do transport of ions take place through plant cell membrane?
 - (d) Describe different types of seed dormancy found in higher plant.
3. Answer *any two* of the following questions: 10×2=20
- (a) Discuss critically cohesion-tension theory that explain the concept of ascent of sap in plants. 5+5=10
 - (b) Illustrate the mechanism of sugar translocation through phloem with special reference to pressure flow model. 5+5=10
 - (c) State the role of cytokinins as PGR. 10
 - (d) Schematically present the different forms of phytochrome and comment on their chemical nature. Discuss the role of phytochrome during flowering of plants giving emphasis on photoperiodism. 4+6=10