



**2022/TDC/ODD/SEM/
BOTHCC-502T/144**

TDC (CBCS) Odd Semester Exam., 2022

BOTANY

(Honours)

(5th Semester)

Course No. : BOTHCC-502T

(Plant Physiology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

UNIT—I

1. Answer any two of the following : $2 \times 2 = 4$

- (a) What is aquaporin? Write one function of it.
- (b) Write two functions of guard cell.
- (c) Define symplast and apoplast.



(2)

2. Answer any *one* of the following : 6
- (a) With the help of suitable diagram, describe the mechanism of opening and closing of stomata.
- (b) Write notes on the following : 3×2=6
- (i) Anti-transpirants
- (ii) Cohesion-tension theory

UNIT—II

3. Answer any *two* of the following : 2×2=4
- (a) What do you mean by trace element? Give examples.
- (b) What is active absorption? Give example.
- (c) Write the importance of N in plants.
4. Answer any *one* of the following : 6
- (a) Differentiate between macro- and micro-element for nutrition. Write the roles of P, Fe and Mg in plants. 2+4=6
- (b) What do you mean by ATPase pump? Describe how ATPase pump works. 2+4=6

(3)

UNIT—III

5. Answer any *two* of the following : 2×2=4
- (a) What is companion cell? Write its function.
- (b) What do you mean by translocation of sugar? Write the importance of translocation in plants.
- (c) What do you mean by 'source' in plant metabolic system? Which components are stored in 'source'?
6. Answer any *one* of the following : 6
- (a) With the help of suitable diagram, describe the mechanism of translocation of sugar in plants.
- (b) Describe pressure-flow model with suitable examples in plant translocation.

UNIT—IV

7. Answer any *two* of the following : 2×2=4
- (a) Write the names of two synthetic hormones.
- (b) What is the role of gibberellin in seed germination?
- (c) Write two functions of brassinosteroids.



8. Answer any one of the following : 6

- (a) Write about cellular and physiological role of auxin in plants.
- (b) Discuss the role of abscisic acid in plants.

UNIT—V

9. Answer any two of the following : 2×2=4

- (a) What do you mean by stratification? Write its importance.
- (b) What do you mean by photomorphogenesis? Give one example.
- (c) Write two functions of phototropins.

10. Answer any one of the following : 6

- (a) What do you mean by vernalization? Discuss the mechanism of vernalization with suitable model. 2+4=6
- (b) Write notes on :
 - (i) Phytochrome
 - (ii) Florigen concept
