



**2021/TDC/CBCS/ODD/  
BOTHCC-502T/144**

**TDC (CBCS) Odd Semester Exam., 2021  
held in March, 2022**

**BOTANY**

**( 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*

**SECTION—A**

Answer any ten questions :  $2 \times 10 = 20$

1. What is apoplastic movement of minerals in plants?
2. What is transpiration? Name one anti-transpirant.
3. What is guard cell? Write the functions of guard cell.



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4. What do you mean by micro-nutrients? Give examples.
5. What is necrosis? Which element is responsible for necrosis?
6. Write the role of iron and phosphorus in plant growth.
7. Which component of phloem are responsible for transport of glucose in different parts of the plant?
8. What is the role of ion channel in transport of glucose from mesophyll cell to companion cell?
9. What do you mean by osmotic potential in sieve tube of phloem?
10. Name two synthetic auxins with their roles in plant growth.
11. Write the role of cytokinin in plant.
12. Name one gaseous hormone. Write its function in plant.
13. Write the chemical nature of phytochrome.
14. What is photomorphogenesis? Give example.
15. Define vernalization.

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( Continued )

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SECTION—B

Answer any five questions :

6×5=30

16. Discuss the different components of water potential. Differentiate between osmosis and diffusion. 4+2=6
17. With neat diagram, discuss the mechanism of ascent of sap. What is adhesion? 5+1=6
18. Discuss the mechanism of active transport of ions in plant with suitable diagram. What is ion flux? 5+1=6
19. Write notes on the following : 3+3=6
  - (a) Symport and antiport
  - (b) Chelating agents
20. Write about experimental evidence supporting the role of phloem in transport of sugar. 6
21. Write about the significance of source-sink transportation? How it occurs? 2+4=6
22. Write the role of gibberellins in plant growth. How gibberellins help in seed germination? 4+2=6

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( Turn Over )



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23. Write notes on the following : 3+3=
- (a) Abscissic acid
  - (b) Brassinosteroids
24. What do you mean by seed dormancy? How seed dormancy can be broken? 2+4=
25. How vernalization helps in flowering? Add a note on florigen concept. 3+3=

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