



**2020/TDC(CBCS)/ODD/SEM/  
BOTHCC-502T/144**

**TDC (CBCS) Odd Semester Exam., 2020  
held in March, 2021**

**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**

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

- (a) What is the unit for water potential?  
Write the water potential of pure water.
- (b) What is antitranspirant? Give one example.
- (c) What is aquaporin?
- (d) What is guttation?



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- (e) Write the role of zinc and magnesium in plants.
- (f) What is chlorosis?
- (g) What do you mean by chelating agent? Give one example.
- (h) Differentiate between symport and anti-  
port.
- (i) Write the organelles which can synthesize and help in transport of glucose.
- (j) Write the chemical nature of the photosynthetic product. Write the structure.
- (k) Write the role of companion cell in transport of glucose from source to sink.
- (l) What is osmotic pressure?
- (m) Give examples of two synthetic hormones.
- (n) Who discovered gibberellins and from which organism?
- (o) Write the role of ethylene in plants.
- (p) How gibberellins helps in seed germination?
- (q) Define day neutral plants. Give one example.

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( Continued )

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- (r) Differentiate between stratification and scarification.
- (s) What is the function of phototropin in plants?
- (t) What is vernalin? Write its function.

SECTION—B

Answer any five questions

- 2. Differentiate between symplastic and apoplastic water transport. Write about the steps of symplastic and apoplastic water transport with diagrams.  $2+4=6$
- 3. Describe the mechanism of stomatal opening and closing with suitable model. 6
- 4. What do you mean by facilitated diffusion? Write a note on it in the context of plant mineral transport.  $1+5=6$
- 5. Write notes on the following :  $3 \times 2 = 6$ 
  - (a) ATPase pump
  - (b) Trace elements
- 6. With suitable model, explain the pressure flow hypothesis in connection with phloem transport. 6

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( Turn Over )



7. What do you mean by source and sink? How is sugar transported from source to sink?  $1+5=6$
8. Write the physiological role of auxins in plants. Add a note on chemical nature of auxins. Name some synthetic auxins.  $3+2+1=6$
9. Write notes on the following :  $3 \times 2 = 6$
- (a) Role of Gibberellins in horticulture
  - (b) Cytokinins
10. Write about different chemical forms of phytochromes. Write the role of phytochrome in flowering.  $1+5=6$
11. What is photoperiodism? Explain how photoperiodic cycle helps in flowering of angiosperms.  $1+5=6$

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