

**5 SEM TDC BOTH (CBCS) C 12**

**2 0 2 2**

( Nov/Dec )

**BOTANY**

( Core )

Paper : C-12

**( Plant Physiology )**

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. (a) Choose the correct answer of the following : 1×3=3

(i) Casparian strips are found in epidermal cells/cortical cells/pericycle/endodermal cells of roots of plants.

(ii) Cohesive force of water is due to presence of hydrogen bonds between water molecules/covalent bonds between water molecules/hydrogen bonds between water and components of xylem walls/None of these.

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( Turn Over )

(iii) Which of the following is supposed

to be precursor of florigen? Auxin/  
Gibberellin/Cytokinin/All of these.

(b) Fill in the blanks : 1×2=2

(i) Avena-Currature test for bioassay  
was developed by \_\_\_\_\_.

(ii) Osmotic pressure of pure water is  
\_\_\_\_\_.

2. What is ascent of saps? Explain in detail the  
transpiration pull and cohesion of water  
theory of ascent of sap. Cite some evidences  
in support of this theory. 2+7+3=12

Or

What is Donnan's equilibrium? Describe the  
principles involved in the mechanism of  
absorption of mineral salts by plants. 3+9=12

3. What are the trace elements? Write the  
general functions of essential elements in  
plants. How will you determine the  
essentiality of a particular mineral element  
for the normal growth and development of  
the plants? 3+7+2=12

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( Continued )

Or

Write explanatory notes on the following :

6+6=12

(a) Active absorption of water by plants  
(b) High irradiance response (HIR)

4. Define tropic movement in plants. Explain  
with examples the different types of tropic  
movement in plants. 2+10=12

Or

Write briefly on the following : 4×3=12

(a) Vernalization  
(b) Significance of osmosis  
(c) Guttation

5. What are gibberellins? How are they  
synthesize in plants? Describe the role of  
gibberellins in plants. 2+5+5=12

Or

Write explanatory notes on the following :

6+6=12

(a) Role of phytochrome in  
photomorphogenesis  
(b) Loading and unloading in phloem  
transport

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