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5 SEM TDC BOTH (CBCS) C 12

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(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*

- (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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(2)

(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-Curvature test for bioassay was developed by _____.

(ii) Osmotic pressure of pure water is _____.

2. What is ascent of sap? 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

(Continued)

(3)

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 synthesized 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
