

AQ - 977

**Third Semester M.Sc. (Part – II) (C.B.C.S)
Examination**

BOTANY

Paper – XI (Elective)

(Advanced Plant Physiology and Biochemistry – I)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) All questions are compulsory and carry equal marks.
(2) Draw neat and well labelled diagrams wherever necessary.

1. Write on :—

- | | |
|-------------------------------|---|
| (a) P-type ATPase | 6 |
| (b) Deficiency symptoms of Mg | 5 |
| (c) Functions of Aquaporins | 5 |

OR

- | | |
|--------------------------|---|
| (d) Carriers | 6 |
| (e) Toxicity of Hg | 5 |
| (f) Phosphorus transport | 5 |

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P.T.O.

2. What is phototropism ? Explain in detail phototropic signal perception and transduction.

OR

Explain mechanism of gravitropism. Add a note on role of calcium in gravitropism. 16

3. Write detail account of carotenoid biosynthesis. Add a note on importance of double bond in the structure.

OR

Explain why electron acceptor and donor molecules are covered by phytol chain of lipid bilayer in plastid membrane and inner mitochondrial membrane. Add a note on functions of plastids. 16

4. Write on :—

- (g) Possible source of H_2 from plant. 6
(h) Hydrolysable tannin. 5
(i) Third law of thermodynamics. 5

OR

- (j) Stilbenes. 6
(k) Biosynthesis of sesquiterpene. 5
(l) First law of thermodynamics. 5

5. Write on :—

- (m) Principle of IR spectroscopy. 6
(n) Applications of Flame photometry. 5
(o) Applications of TLC. 5

OR

- (p) Applications of affinity chromatography. 6
(q) Principle of Fluorescence spectroscopy. 5
(r) Principle of x-ray spectroscopy. 5