

M.Sc. (Part-I) Semester-II (CBCS Scheme) Examination

BOTANY

(Plant Physiology)

Paper-VII

Time : Three Hours]

[Maximum Marks : 80

Note :— (1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagram wherever necessary.

1. Write on :

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|-------------------------------------|---|
| (a) Covalent allosteric mechanism. | 5 |
| (b) Second law of thermodynamics. | 5 |
| (c) Structure and functions of ATP. | 6 |

OR

- | | |
|--|---|
| (d) Significance of Michaelis-Menton equation. | 5 |
| (e) Equilibrium constant for ATP. | 5 |
| (f) Redox reaction. | 6 |

2. Write on :

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|---|---|
| (g) Free energy of water in plant water relation. | 5 |
| (h) Phloem loading. | 5 |
| (i) Water stress. | 6 |

OR

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|-----------------------|---|
| (j) Biotic stress. | 5 |
| (k) Phloem unloading. | 5 |
| (l) Salinity stress. | 6 |

3. Explain electromagnetic spectrum. Add a note on light harvesting complexes. 16

OR

Explain Calvin cycle. Compare photosynthetic productivity of C_3 and C_4 plant. 16

4. Write on :

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|------------------------------------|---|
| (m) Pentose phosphate pathway | 5 |
| (n) Oxygenase activity of RUBISCO. | 5 |
| (o) TCA cycle. | 6 |

OR

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|-------------------------------------|---|
| (p) ATPase complex. | 5 |
| (q) Role of ethylene in senescence. | 5 |
| (r) Glyoxylate pathway. | 6 |

5. Explain mechanism of action of cytokinins. Add a note on it's physiological effect. 16

OR

Explain significance of florigen in floral induction. Add a note on application of synthetic florigen. 16

