

BOTANY Paper-A

(Plant Physiology-I)

Time Allowed : Three Hours

Maximum Marks : 36

Note : Attempt five questions in all, selecting one question from each Unit.

Question No. I is compulsory. Draw diagram where required.

1. (a) M.C.Qs. :

(i) Which of the following is balancing element in mineral nutrition ?

- | | |
|---------------|-----------|
| (a) Magnesium | (b) Boron |
| (c) Copper | (d) Lead |

(ii) Root release iron binding ligands.....
for absorbing iron from soil :

- | | |
|------------------|-------------|
| (a) Ferrichrome | (b) Hematin |
| (c) Coffeic acid | (d) Calcium |

- (iii) The reclamation disease and Exanthema in plants is due to deficiency of :
- (a) Sulphur (b) Copper
(c) Molbdenum (d) None of these
- (iv) MUFA and PUFA are :
- (a) Saturated fatty acids (b) Glycerd
(c) Unsaturated fatty acids (d) None
- (v) A solution having less negative osmotic pressure is
- (a) hypotonic solution (b) hypertonic solution
(c) Isotopic solution (d) None
- (vi) Saturated fats have melting point.
- (a) High (b) Low
(c) Both (d) None
- (b) Fill in the blanks :
- (vii) Pulsation theory was given by
- (viii) The non-protein organic groups attached firmly to the apoenzyme are called
- (ix) The plants which have highly acidic sap are called
- (x) The process of formation of bubbles from dissolved gases is called
- (xi) Active absorption is accompanied by increase in rate of respiration. This increase is called
- (xii) types of amino acids and amides occur in proteins.

12×1=12

UNIT-I

2. Write notes on :
- (a) Passive absorption of water.
(b) Importance of water potential 4,2
3. Write an account on :
- (a) Types of active water absorption
(b) Objection against Dixon theory 4,2

UNIT-II

4. Write notes on :
- (a) Cytochrome pump theory
(b) Deficiency symptoms of potassium 4,2
5. Write notes on :
- (a) Modern theories of ion absorption
(b) What is hydroponics and give its uses ? 4,2

UNIT-III

6. Write an account on :

(a) How do plants utilise nitrate nitrogen ?

(b) What are Sphingolipids and its uses ?

4,2

7. Write notes on :

(a) β -oxidation

(b) Reductive amination

4,2

UNIT-IV

8. What are proteins ? Describe secondary and tertiary structure in detail.

6

9. Write an account on :

(a) Different types of enzyme inhibition

(b) Secondary structure of Protein.

4,2