

Bachelor of Science (B.Sc.) Semester—V (C.B.S.) Examination

BOTANY

Paper—1

(Bio Chemistry and Plant Physiology—I)

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) **ALL** questions are compulsory and carry equal marks.
(2) Draw well labelled diagrams and examples wherever necessary.

1. Write on :—

- | | |
|---|---|
| (a) Factors affecting enzyme activity. | 5 |
| (b) Properties and role of fatty acids. | 5 |

OR

Write short notes on :—

- | | |
|--------------------------------------|-----|
| (c) Lock and key model. | 2.5 |
| (d) Structure of glucose molecule. | 2.5 |
| (e) Enzyme-substrate complex theory. | 2.5 |
| (f) Disaccharides. | 2.5 |

2. Write on :—

- | | |
|---------------------------------------|---|
| (a) Cohesion adhesion theory. | 5 |
| (b) K ⁺ malate hypothesis. | 5 |

OR

Write short notes on :—

- | | |
|-------------------------------------|-----|
| (c) Osmosis. | 2.5 |
| (d) Munch Mass Flow hypothesis. | 2.5 |
| (e) Diffusion and its significance. | 2.5 |
| (f) Osmotic Potential. | 2.5 |

3. Write on :—

- | | |
|-----------------------|---|
| (a) Kreb's cycle. | 5 |
| (b) Glyoxylate cycle. | 5 |

OR

Write short notes on :—

- (c) ETS 2.5
- (d) Carrier concept 2.5
- (e) Role and deficiency of phosphorus. 2.5
- (f) Alcoholic fermentation. 2.5

4. Write on :—

- (a) Calvin Cycle 5
- (b) Mechanism of Symbiotic nitrogen fixation. 5

OR

Write short notes on :—

- (c) Factors affecting photosynthesis. 2.5
- (d) CAM pathway. 2.5
- (e) Hill's reaction 2.5
- (f) Action Spectra. 2.5

5. Write in two or three lines on any **TEN**. (Diagrams are not necessary) :—

- (a) Active site
- (b) Peptide bond
- (c) Ligases
- (d) Imbibition
- (e) Transpiration
- (f) Root pressure
- (g) R.Q.
- (h) ATP
- (i) Donnan's Equilibrium
- (j) Photophosphorylation
- (k) Emerson's enhancement effect.
- (l) P_{700} .

1×10=10