

KNT/KW/16/5174

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

BIOCHEMISTRY AND PLANT PHYSIOLOGY—I

Paper—1

(Botany)

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. Write on :

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|--|---|
| (a) Lock and key and induced fit model of enzyme action. | 5 |
| (b) Nomenclature of enzymes. | 5 |

OR

Write short notes on :

- | | |
|--------------------------------------|----|
| (c) Structure of glucose molecule. | 2½ |
| (d) Enzyme-substrate complex theory. | 2½ |
| (e) Properties and role of lipids. | 2½ |
| (f) Monosaccharides. | 2½ |

2. Write on :

- | | |
|---------------------------------------|---|
| (a) Münch Mass Flow hypothesis. | 5 |
| (b) K ⁺ malate hypothesis. | 5 |

OR

Write short notes on :

- | | |
|---|----|
| (c) Osmosis. | 2½ |
| (d) Root Pressure Theory. | 2½ |
| (e) Diffusion and its significance in plants. | 2½ |
| (f) Properties of water. | 2½ |

3. Write on :

- | | |
|-------------------------|---|
| (a) β -oxidation. | 5 |
| (b) Glycolysis. | 5 |

OR

Write short notes on :

- (c) Carrier concept. 2½
- (d) Structure of ATP. 2½
- (e) Deficiency symptoms of N and Fe. 2½
- (f) Alcoholic fermentation. 2½

4. Write on :

- (a) Symbiotic nitrogen fixation. 5
- (b) Non-cyclic photophosphorylation. 5

OR

Write short notes on :

- (c) Calvin cycle (Draw cycle only). 2½
- (d) Emerson's enhancement effect. 2½
- (e) Photosynthetic pigments. 2½
- (f) Hatch-slack pathway. 2½

5. Write **two** or **three** lines on any **TEN** of the following. (Diagrams are not necessary.) :

- (a) Holoenzyme
- (b) Phospholipids
- (c) Peptide bond
- (d) D.P.D.
- (e) Imbibition
- (f) Osmotic potential
- (g) R.Q.
- (h) Trace elements
- (i) Oxidative phosphorylation
- (j) Red drop
- (k) Nitrate reductase
- (l) CAM.

1×10=10