

B.Sc. CBCS Pattern Semester-III  
**012B - Botany Paper-II : Plant Biochemistry and Physiology**

P. Pages : 2

Time : Three Hours



**GUG/W/23/11599**

Max. Marks : 50

- 
- Notes : 1. All questions are compulsory.  
2. Illustrate your answers with suitable examples and draw well labelled diagrams wherever necessary.

**1.** Write notes on.

- |                                  |          |
|----------------------------------|----------|
| a) Polysaccharide.               | <b>5</b> |
| b) Primary structure of protein. | <b>5</b> |

**OR**

Write short notes on.

- |                              |           |
|------------------------------|-----------|
| c) Aldoses and Ketoses.      | <b>2½</b> |
| d) Uses of Fatty acids.      | <b>2½</b> |
| e) Structure of amino acids. | <b>2½</b> |
| f) Sphingolipids.            | <b>2½</b> |

**2.** Write notes on.

- |  |          |
|--|----------|
| a) Biological nitrogen fixation.         | <b>5</b> |
| b) Nomenclature of Enzymes (IUB system). | <b>5</b> |

**OR**

Write short notes on.

- |  |           |
|--|-----------|
| c) Role & deficiency symptom of phosphorus.  | <b>2½</b> |
| d) Lock and key model of enzymes.            | <b>2½</b> |
| e) Role and deficiency symptom of magnesium. | <b>2½</b> |
| f) Nitrate reductase.                        | <b>2½</b> |

**3.** Write note on.

- |                                    |          |
|------------------------------------|----------|
| a) K <sup>+</sup> & malate theory. | <b>5</b> |
| b) Cohesion- adhesion theory.      | <b>5</b> |

**OR**

Write short notes on.

- |                      |    |
|----------------------|----|
| c) Osmosis.          | 2½ |
| d) Carrier concept.  | 2½ |
| e) Guttation.        | 2½ |
| f) Munch hypothesis. | 2½ |

**4.** Write note on.

- |                              |   |
|------------------------------|---|
| a) Kreb's / TCA cycle.       | 5 |
| b) C3 Pathway/ Calvin cycle. | 5 |

**OR**

- |                                 |    |
|---------------------------------|----|
| c) R.Q.                         | 2½ |
| d) CAM Pathway.                 | 2½ |
| e) Cyclic photophosphorylation. | 2½ |
| f) Fermentation.                | 2½ |

**5.** Write **any ten** in one or two lines (Diagrams not necessary). **10**

- |                     |                      |
|---------------------|----------------------|
| a) Peptide bond.    | b) Sucrose.          |
| c) Waxes.           | d) Prosthetic group. |
| e) Chlorosis.       | f) Holoenzyme.       |
| g) Guard cell.      | h) Water potential.  |
| i) Diffusion.       | j) C4 plants.        |
| k) Reaction center. | l) ATP.              |

\*\*\*\*\*