B.Sc. Second Year (CBCS Pattern) Sem-III

012B - Botany Paper-II (Plant Biochemistry & Physiology)

P. Pages : 2 **GUG/W/23/11599 (S)**

Time : Three Hours * 8 3 0 7 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw diagrams wherever necessary.

1. a) What are Lipids? Write about its properties and role. **5**

b) What are carbohydrates? Write about properties and role of carbohydrates. **5**

OR

Write short notes on –

c) Aldoses and ketoses. **2½**

d) Structure of cellulose. **2½**

e) Oils and waxes. **2½**

f) Aromatic amino acids. **2½**

2. a) Explain IUB system of enzyme classification. **5**

b) Explain root nodule formation. **5**

OR

c) Lock & Key model. **2½**

d) Properties of enzymes. **2½**

e) Nitrate reductase. **2½**

f) Role of nitrogen and Potassium. **2½**

3. a) Cohesion – adhesion theory. **5**

b) Active potassium theory of stomatal opening. **5**

OR

c) Properties of water. **2½**

d) Plasmolysis. **2½**

e) Munch hypothesis. **2½**

f) Donnon equilibrium. **2½**

4. a) Explain Calvin Cycle. **5**

b) Describe oxidative phosphorylation. **5**

OR

c) Photosynthetic pigments. **2½**

d) CAM pathway. **2½**

e) EMP pathway flow chart. **2½**

f) Factors affecting respiration. **2½**

5. Write answers in two or three lines for **any ten** (Diagrams not necessary).

a) Amylopectin. **1**

b) Saponification. **1**

c) Peptide bond. **1**

d) Holoenzyme. **1**

e) Leg-hemoglobin. **1**

f) Trace elements. **1**

g) Osmosis. **1**

h) Source – sink. **1**

i) Ion – carrier complex. **1**

j) Red drop. **1**

k) Kranz anatomy. **1**

l) RQ. **1**

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