B.Sc. (CBCS Pattern) Semester-III

012B - Botany Paper-II : Plant Biochemistry and Physiology

P. Pages : 2 **GUG/W/24/11599**

Time : Three Hours * 4 5 5 1 * Max. Marks : 50

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1. Write on. **5x2 =10**

a) What is Lipid? Describe in detail structure & uses of fatty acid.

b) What is carbohydrates? Describe the structure of polysaccharides.

OR

Write short note on. **2½x4**

c) Structure of monosaccharides.

d) Classification of Amino acids.

e) Structure of phospholipid.

f) Oils and waxes.

2. Write on. **5x2 =10**

a) What is Nitrogen fixation? Explain about Biological Nitrogen fixation.

b) What are enzymes? Write about regulation of enzyme activity.

OR

Write short note on. **2½x4**

c) Sources of Nitrogen in plants

d) Deficiency symptoms of calcium

e) Nomenclature of Enzyme

f) Enzyme – substrate complex

3. Write on. **5x2 =10**

a) What is Ascent of Sap? Explain Mechanism by cohesion-tension theory.

b) What is transpiration? Active potassium theory of Stomatal opening

OR

Write short note on. **2½x4**

c) Osmosis & it's types.

d) Donnan Equilibrium theory

e) Munch hypothesis

f) Water potential.

4. Write on. **5x2 =10**

a) What is Respiration? Explain the detail EMP pathway.

b) What is photosynthesis? Explain non-cyclic photophosphorylation.

OR

Write short note on. **2½x4**

c) Photolysis of water

d) Respiratory substrate

e) Site of photosynthesis (chloroplast)

f) Mitochondrion (structure)

5. Write in one - two - lines. **(any ten)** **10**

a)	Sucrose	b)	Waxes
c)	Peptidase	d)	Holoenzyme
e)	Nitrogenase	f)	Nitrogen reductase
g)	Micronutrients	h)	Diffusion
i)	Plasmolysis	j)	Xanthophyl
k)	Respiratory quotient	l)	Anaerobic respiration

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