

General Botany (101N)
Plant physiology

Answer the following questions:

Q1: Define only:- Osmosis - Brownian movement - Photosynthesis. (4 marks)

Q2: Compare between types of liquid systems. (4 marks)

Q3: What is the diffusion and mention the important role in the plant life. (4 marks)

Q4: Choose the correct answer: (12 marks)

1- Sucrose solution cause (temporary plasmolysis - permanent plasmolysis - not plasmolysis).

2-Clay is (true solution - suspensoid - emulsoid).

3-When the respiratory substrate is fats the R.Q values = (1 - 0.7 - 4).

4-When dispersed phase is water and dispersion medium is solid the colloidal is known as (hydrosol - hydrogel - Emulsoid).

5-When the humidity of the atmosphere decrease, the osmotic pressure of the leaves cells (increase - decrease - not affect).

6-Reduction of viscosity by rise temperature due to (increase - decrease - not change) in the hydration of colloidal particles.

7-Foam dispersed in (gas in liquid - liquid in solid - solid in solid).

8-The end products of aerobic respiration in plants are { $(\text{CO}_2+\text{H}_2\text{O}+\text{E})$, $(\text{H}_2\text{O}+\text{E})$, (CO_2+E) , $\text{CO}_2+\text{H}_2\text{O}$ }.

9-The osmotic pressure of plant cell (decrease - increase - not affected) when water enters into it.

10- Charcoal is used in refining of sugars, this take place by (adsorption- absorption- diffusion) process.

GOOD LUCK

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Answer

Q1: Define only

Osmosis :- the diffusion of molecules of the solvent through the semipermeable membrane.

Brownian movement :-colloidal particles of the large size can be observed under the ultra microscope in a continuous irregular dancing motion.

Photosynthesis:-is the a process in which energy from the sun is transformed into chemical energy.

Q2: Compare between types of liquid systems.

True solution	Suspension and Emulsions	Colloidal systems
1.Dispersed particles are molecules or ions	Dispersed particles are aggregates of molecules	Dispersed particles are aggregates of molecules
2.Diameter of particles is less than 0.001 micron	Diameter of particles is more than 0.1 micron	Diameter of particles is ranges between 0.001 and 0.1 micron
3.They are stable	3.They are unstable	3.They are relatively stable
4.Particles cannot be seen by any optical system	Particles can be seen by any ordinary microscop	Particles can be seen by an ultra microscop

Q3: What is the diffusion and mention the important role in the plant life.

1. Gaseous exchange between the plant and the atmosphere .
2. Water vapour passes out of the plant during the process of transpiration.
3. the absorption of water and ions of solutes from the soil solution by roots of plants is also based on diffusion

4. Translocation of food and other products from one part of the plant to the other.

Q4: Choose the correct answer:

1. permanent plasmolysis

2. suspensoid

3. 0.7

4. hydrogel

5. increase

6. decrease

7. gas in liquid

8. (CO₂+H₂O+E)

9. decrease

10. adsorption