



General Instructions:-

- i) All questions are compulsory.
- ii) Attempt all the parts of a question together.
- iii) Give labelled diagrams and examples wherever required.

1. How will you represent the water potential by an equation? Explain each factor of the equation. (1)
2. What is Hydroponics? Write down its importance. (1)
3. Represent cyclic photophosphorylation diagrammatically. (1)
4. The rice seedlings infected with fungus *Gibberella fujikuroi* were called foolish seedlings. What was the reason behind it? (1)
5. The role of ethylene and abscisic acid is both positive and negative. Justify the statement. (2)
6. Explain the following:-
 - a) Turgidity
 - b) Facilitated Diffusion(2)
7. Fill in the blank spaces with suitable words :- (2)
 - a) Acetyl Co-A is formed from _____ and Coenzyme A.
 - b) In Prokaryotes _____ molecules of ATP are formed per molecule of Glucose oxidised.
 - c) Glycolysis takes place in _____.
 - d) F₀-F₁ particles participate in the synthesis of _____.
8. Show diagrammatically the progressive reduction of N₂ into NH₃. (2)
9. Sketch the photosynthetic organelle and indicate only two regions which show dark and light reactions. What are PS I and PS II? (3)
10. Draw the schematic representation to show how water molecules travel from the root hair to the leaves. (3)
11. How do these phenomenon affect the ascent of sap in plants?
 - a) Root pressure
 - b) Cohesion and adhesion
 - c) Transpiration Pull(3)
12. What are mobile and immobile minerals and how do they affect the plants? (3)
13. Differentiate between Aerobic and anaerobic respiration. (3)
14. Explain briefly each of these terms with the help of examples taken from different plant tissues:-
Differentiation, Dedifferentiation, Redifferentiation (3)
15. How does glucose get transformed into pyruvic acid? (5)
16. What conditions enable RuBisco to function as an oxygenase? Explain the ensuring process. (5)