



বিদ্যাসাগর বিশ্ববিদ্যালয়

**VIDYASAGAR UNIVERSITY**

**B.Sc. (Honours) in AGRICULTURE  
1st Semester Examination 2021**

**PAPER—AGS-102**

**FUNDAMENTALS OF CORP PHYSIOLOGY**

*Full Marks : 70*

*Time : 3 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**THEORY**

1. Answer any *ten* questions.

10×2

- (a) What do you mean by Crop Physiology?
- (b) Write the importance of Crop physiology in agriculture?
- (c) What do you mean by active absorption?
- (d) Write the functions of chloroplast.

- (e) Distinguish between diffusion and osmosis.
- (f) What is hidden hunger in plant?
- (g) Distinguish between Chlorosis and necrosis.
- (h) Write the deficiency symptoms of Phosphorus (P) in plant.
- (i) What are the characteristics of a  $C_3$  plant?
- (j) Define cyclic photophosphorylation.
- (k) What is Kranz anatomy and give an example?
- (l) Define CAM plant.
- (m) Why Krebs cycle is also called TCA?
- (n) Mention different enzymes involved in glycolysis process.
- (o) What do you mean by Vernalization?

**2.** Answer any six questions.

6×5

- (a) Differentiate between active and passive absorption.
- (b) Describe the various external conditions affecting absorption of water by root.
- (c) Discuss in detail about the Z scheme of light reaction.
- (d) Briefly describe the  $CO_2$  assimilation mechanism in  $C_4$  plants.
- (e) Describe the mechanisms of stomatal opening and closing.

- (f) Schematically represents different modes of IAA biosynthesis found in plants.
- (g) Write the mechanism of CO<sub>2</sub> assimilation by CAM plants.
- (h) Write the roles of phytohormones in agriculture.
- (i) Discuss the mechanism of photoperiodism.
- (j) "Photorespiration is a wasteful pathway". Explain it.

### PRACTICAL

Answer any *two* questions. 2×10

1. Write down the principle and material & method for the demonstration of O<sub>2</sub> liberation in the process of photosynthesis. 3+7
  2. How to demonstrate the rate of transpiration by weighing method? Give requisitions for this experiment. 7+3
  3. Write down the procedure for the determination of the relative water content in different seeds. Prepare a requisition for the experiment. 7+3
  4. What do you mean by plasmolysis? Write the principle and procedure for the demonstration of plasmolysis in plant cell. 2+(2+6)
-