

CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN, NUVEM-GOA
SEMESTER END EXAMINATION (ONLINE MODE), JULY 2021

Semester: **IV B.Sc.**

Subject: **BOTANY – DSC**

Course name and Code: **Plant Physiology – BOC 104**

Max. Marks: **40**

Date: **10/07/2021**

Duration: **2 Hours**

Total No. of pages: **01**

Instructions: 1. All questions are *compulsory*.

2. Figures to the *right* indicate *maximum* marks allotted to the question.

3. Draw labeled diagrams *wherever* necessary.

Q. I. Answer **any five** of the following in brief:

(5 x 2 Marks = 10)

- i. State the physiological role and deficiency symptoms of phosphorus and iron in plants.
- ii. What is phloem loading and unloading?
- iii. What is vernalization? State its practical application.
- iv. What is allosteric inhibition?
- v. Differentiate between hypotonic and hypertonic solution.
- vi. Draw a neat diagram of hydathode and label epithem.
- vii. Mention any two structural peculiarities of C₄ plant leaves.
- viii. Explain the functioning of light harvesting complex in plants.

Q. II. Answer **any six** of the following:

(6 x 5 Marks = 30)

1. Illustrate the mechanism of transport of ions across cell membrane via carriers.
2. Explain the mechanism of translocation through phloem based on Munch's mass flow hypothesis.
3. What is photoperiodism? Describe the different categories of plants based on photoperiod.
4. Describe the process of ammonia assimilation in plants.
5. Write a note on factors affecting transpiration.
6. Briefly explain the physiological roles of the plant growth regulator ethylene.
7. Explain the dual role of the enzyme rubisco.
8. Give a schematic representation of the Glycolytic pathway.
