

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 2028

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Unique Paper Code : 6792012403

Name of the Paper : Plant Physiology

Name of the Course : **B.Sc. (Honours) Biological Sciences**

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. This paper contains six questions. Answer any **four** questions.
3. **Question No. 1 is Compulsory.**
4. All questions carry equal marks. All Parts of a question should be answered together.

Q1. (A) Name the following:

1X5 = 5

- a. Obstruction of a xylem element because of a gas bubble
- b. Hormone named after a fungus
- c. Micronutrient responsible for pollen germination
- d. An anti-transpirant
- e. An obligate photoblastic seed

(B) Give contributions of the following scientists:

1x5 = 5

- a. Joseph Priestley and Atkin
- b. H.Cousins
- c. F.W.Went
- d. Leetham and Miller
- e. Garner and Allard

(C) Define the following:

1x5=5

- a. Osmotic potential
- b. Source-sink relationship
- c. Hydroponics
- d. Vernalization
- e. Bioassay

Q2. Write short notes on the following (**Any Three**):

5X3=15

- a) Florigen
- b) Jasmonic acid as a phytohormone
- c) Aeroponics and its applications
- d) Water potential and its components

P.T.O.

- Q3. (a) Discuss the role of cytokinins in delaying senescence. (6)
(b) Discuss the relevance of phytochrome in photomorphogenic processes in plants with the help of a suitable example. (9)
- Q4. (a) Discuss the different types of membrane transport systems in plants. Support your answer with the help of a well labelled diagram. (9)
(b) Explain the most accepted theory to explain cell elongation in plants with the help of suitable diagram. (6)
- Q5. (a) List the criteria of essentiality of elements. Write the functions of any three macronutrients and three micronutrients. (9)
(b) Discuss the cohesion-tension theory that explains ascent of sap in angiosperms. (6)
- Q6. (a) Explain the mechanism of stomatal movement with respect to the proton transport theory. (9)
(b) Discuss the factors responsible for seed dormancy. Elaborate upon the methods to overcome seed dormancy. (6)